```
=> fil capl

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FILE COVERS 1907 - 2 Apr 2003  VOL 138 ISS 14
FILE LAST UPDATED: 1 Apr 2003  (20030401/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.
```

inventor search

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=> d que l8; d que l10;  d que l23; d que l25

L6             7 SEA FILE=CAPLUS ABB=ON  HOUBION Y?/AU
L7             8 SEA FILE=CAPLUS ABB=ON  DE LONGUEVILLE F?/AU
L8             2 SEA FILE=CAPLUS ABB=ON  L6 AND L7


L1           262 SEA FILE=CAPLUS ABB=ON  REMACLE J?/AU
L2             2 SEA FILE=CAPLUS ABB=ON  DEMARTEAU J?/AU
L3            25 SEA FILE=CAPLUS ABB=ON  ZAMMATTEO N?/AU
L4            21 SEA FILE=CAPLUS ABB=ON  ALEXANDRE I?/AU
L5            13 SEA FILE=CAPLUS ABB=ON  HAMELS S?/AU
L6             7 SEA FILE=CAPLUS ABB=ON  HOUBION Y?/AU
L7             8 SEA FILE=CAPLUS ABB=ON  DE LONGUEVILLE F?/AU
L9             1 SEA FILE=CAPLUS ABB=ON  "DE MARTEAU J M"/AU
L10            2 SEA FILE=CAPLUS ABB=ON  (L2 OR L9) AND (L1 OR (L3 OR L4 OR L5
                 OR L6 OR L7))


L1           262 SEA FILE=CAPLUS ABB=ON  REMACLE J?/AU
L2             2 SEA FILE=CAPLUS ABB=ON  DEMARTEAU J?/AU
L3            25 SEA FILE=CAPLUS ABB=ON  ZAMMATTEO N?/AU
L4            21 SEA FILE=CAPLUS ABB=ON  ALEXANDRE I?/AU
L5            13 SEA FILE=CAPLUS ABB=ON  HAMELS S?/AU
L6             7 SEA FILE=CAPLUS ABB=ON  HOUBION Y?/AU
L7             8 SEA FILE=CAPLUS ABB=ON  DE LONGUEVILLE F?/AU
L8             2 SEA FILE=CAPLUS ABB=ON  L6 AND L7
L9             1 SEA FILE=CAPLUS ABB=ON  "DE MARTEAU J M"/AU
L21         1006 SEA FILE=CAPLUS ABB=ON  METALS/CT(L)PRECIPITAT?
L22           17 SEA FILE=CAPLUS ABB=ON  L21(L)ANST/RL
L23            1 SEA FILE=CAPLUS ABB=ON  ((L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR
                 L7 OR L8 OR L9)) AND L22


L1           262 SEA FILE=CAPLUS ABB=ON  REMACLE J?/AU
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Searched by Barb O'Bryen, STIC 308-4291

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L2            2 SEA FILE=CAPLUS ABB=ON  DEMARTEAU J?/AU
L3           25 SEA FILE=CAPLUS ABB=ON  ZAMMATTEO N?/AU
L4           21 SEA FILE=CAPLUS ABB=ON  ALEXANDRE I?/AU
L5           13 SEA FILE=CAPLUS ABB=ON  HAMELS S?/AU
L6            7 SEA FILE=CAPLUS ABB=ON  HOUBION Y?/AU
L7            8 SEA FILE=CAPLUS ABB=ON  DE LONGUEVILLE F?/AU
L8            2 SEA FILE=CAPLUS ABB=ON  L6 AND L7
L9            1 SEA FILE=CAPLUS ABB=ON  "DE MARTEAU J M"/AU
L18        8171 SEA FILE=CAPLUS ABB=ON  CAMERA#/OBI
L19       53536 SEA FILE=CAPLUS ABB=ON  CCD OR CMOS OR MOS
L20        1236 SEA FILE=CAPLUS ABB=ON  L18(L)L19
L25           1 SEA FILE=CAPLUS ABB=ON  ((L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR
              L7 OR L8 OR L9)) AND L20


=> s l8 or l10 or l23 or l25

L149          3 L8 OR L10 OR L23 OR L25

=> fil wpids; d que l61

FILE 'WPIDS' ENTERED AT 15:45:06 ON 02 APR 2003
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FILE LAST UPDATED:          2 APR 2003      <20030402/UP>
MOST RECENT DERWENT UPDATE:     200322        <200322/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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L43          19 SEA FILE=WPIDS ABB=ON  REMACLE J?/AU
L44           6 SEA FILE=WPIDS ABB=ON  DEMARTEAU J?/AU
L45           7 SEA FILE=WPIDS ABB=ON  ZAMMATTEO N?/AU
L46           9 SEA FILE=WPIDS ABB=ON  ALEXANDRE I?/AU
L47           4 SEA FILE=WPIDS ABB=ON  HAMELS S?/AU
L48           3 SEA FILE=WPIDS ABB=ON  HOUBION Y?/AU
L49           4 SEA FILE=WPIDS ABB=ON  DE LONGUEVILLE F?/AU
L51      130543 SEA FILE=WPIDS ABB=ON  ARRAY? OR MICROARRAY?
L52      139218 SEA FILE=WPIDS ABB=ON  (CHIP# OR BIOCHIP# OR MICROCHIP#)
L53       91325 SEA FILE=WPIDS ABB=ON  PRECIPITAT?
L54      260580 SEA FILE=WPIDS ABB=ON  METALLIC# OR SILVER OR GOLD
L55        2334 SEA FILE=WPIDS ABB=ON  COLLOID?(5A)(METAL# OR GOLD)
L61           5 SEA FILE=WPIDS ABB=ON  (L43 OR L44 OR L45 OR L46 OR L47 OR L48
              OR L49) AND ((L54 OR L55)) AND (L51 OR L52 OR L53)


=> fil biotechno

FILE 'BIOTECHNO' ENTERED AT 15:45:10 ON 02 APR 2003
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FILE LAST UPDATED: 1 APR 2003 <20030401/UP>
FILE COVERS 1980 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN /CT AND BASIC INDEX <<<

=> d que l72; d que l76; d que l77; d que l88; d que l90

L72 1 SEA FILE=BIOTECHNO ABB=ON DEMARTEAU J?/AU

L76 1 SEA FILE=BIOTECHNO ABB=ON HOUBION Y?/AU

L77 2 SEA FILE=BIOTECHNO ABB=ON DE LONGUEVILLE F?/AU

L73 13 SEA FILE=BIOTECHNO ABB=ON ZAMMATTEO N?/AU
L74 9 SEA FILE=BIOTECHNO ABB=ON ALEXANDRE I?/AU
L75 5 SEA FILE=BIOTECHNO ABB=ON HAMELS S?/AU
L79 12667 SEA FILE=BIOTECHNO ABB=ON ARRAY? OR MICROARRAY?
L80 1936 SEA FILE=BIOTECHNO ABB=ON CHIP# OR BIOCHIP# OR MICROCHIP#
L81 15470 SEA FILE=BIOTECHNO ABB=ON PRECIPITAT?
L82 5492 SEA FILE=BIOTECHNO ABB=ON METALLIC# OR SILVER
L83 46 SEA FILE=BIOTECHNO ABB=ON (GOLD OR METAL#)(3A)COLLOID#
L84 437 SEA FILE=BIOTECHNO ABB=ON ELECTROMAGNETIC?
L88 1 SEA FILE=BIOTECHNO ABB=ON ((L73 OR L74 OR L75)) AND (L79 OR L80 OR L81) AND (L82 OR L83 OR L84)

L73 13 SEA FILE=BIOTECHNO ABB=ON ZAMMATTEO N?/AU
L74 9 SEA FILE=BIOTECHNO ABB=ON ALEXANDRE I?/AU
L75 5 SEA FILE=BIOTECHNO ABB=ON HAMELS S?/AU
L90 2 SEA FILE=BIOTECHNO ABB=ON L73 AND L74 AND L75

=> s l72 or l76 or l77 or l88 or l90

L150 4 L72 OR L76 OR L77 OR L88 OR L90

=> fil biotechds

FILE 'BIOTECHDS' ENTERED AT 15:45:16 ON 02 APR 2003
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FILE LAST UPDATED: 1 APR 2003 <20030401/UP>

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>>> NEW CLASSIFICATION SYSTEM FROM 2002 ONWARDS - SEE HELP CLA <<<

=> d que l103;d que l107; d que l118

L103 1 SEA FILE=BIOTECHDS ABB=ON DEMARTEAU J?/AU

L107 2 SEA FILE=BIOTECHDS ABB=ON HOUBION Y?/AU

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L102          26 SEA FILE=BIOTECHDS ABB=ON  REMACLE J?/AU
L104           8 SEA FILE=BIOTECHDS ABB=ON  ZAMMATTEO N?/AU
L105           6 SEA FILE=BIOTECHDS ABB=ON  ALEXANDRE I?/AU
L106           5 SEA FILE=BIOTECHDS ABB=ON  HAMELS S?/AU
L108           4 SEA FILE=BIOTECHDS ABB=ON  DE LONGUEVILLE F?/AU
L109        5041 SEA FILE=BIOTECHDS ABB=ON  ARRAY? OR MICROARRAY?
L110        3197 SEA FILE=BIOTECHDS ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L111       11777 SEA FILE=BIOTECHDS ABB=ON  PRECIPITAT?
L112        1197 SEA FILE=BIOTECHDS ABB=ON  METALLIC# OR SILVER
L113          24 SEA FILE=BIOTECHDS ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
L114         242 SEA FILE=BIOTECHDS ABB=ON  ELECTROMAGNET?
L115          17 SEA FILE=BIOTECHDS ABB=ON  ELECTRO MAGNET?
L116          44 SEA FILE=BIOTECHDS ABB=ON  (CCD OR CMOS OR MOS) AND CAMERA#
L118           2 SEA FILE=BIOTECHDS ABB=ON  (L102 OR (L104 OR L105 OR L106) OR
                  L108) AND (L109 OR L110) AND (L111 OR L112 OR L113 OR L114 OR
                  L115 OR L116)

=> s l103 or l107 or l118

L151           3 L103 OR L107 OR L118

=> fil biosis

FILE 'BIOSIS' ENTERED AT 15:45:21 ON 02 APR 2003
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 26 March 2003 (20030326/ED)

=> d que l123; d que l127; d que l128; d que l138

L123           1 SEA FILE=BIOSIS ABB=ON  DEMARTEAU J?/AU


L127           2 SEA FILE=BIOSIS ABB=ON  HOUBION Y?/AU


L128           2 SEA FILE=BIOSIS ABB=ON  DE LONGUEVILLE F?/AU


L122         277 SEA FILE=BIOSIS ABB=ON  REMACLE J?/AU
L124          12 SEA FILE=BIOSIS ABB=ON  ZAMMATTEO N?/AU
L125          12 SEA FILE=BIOSIS ABB=ON  ALEXANDRE I?/AU
L126           7 SEA FILE=BIOSIS ABB=ON  HAMELS S?/AU
L129       38181 SEA FILE=BIOSIS ABB=ON  ARRAY? OR MICROARRAY?
L130        5878 SEA FILE=BIOSIS ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L131       76577 SEA FILE=BIOSIS ABB=ON  PRECIPITAT?
L132       34012 SEA FILE=BIOSIS ABB=ON  METALLIC# OR SILVER
L133         330 SEA FILE=BIOSIS ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
L134        9569 SEA FILE=BIOSIS ABB=ON  ELECTROMAGNET? OR ELECTRO MAGNET?
L135        1096 SEA FILE=BIOSIS ABB=ON  (CCD OR CMOS OR MOS) AND CAMERA#
L138           1 SEA FILE=BIOSIS ABB=ON  (L122 OR (L124 OR L125 OR L126)) AND
                  (L129 OR L130 OR L131) AND (L132 OR L133 OR L134 OR L135)
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=> s l123 or l127 or l128 or l138

L152 4 L123 OR L127 OR L128 OR L138

=> dup rem l150,l151,l149,l152,l61

FILE 'BIOTECHNO' ENTERED AT 15:45:52 ON 02 APR 2003

FILE 'BIOTECHDS' ENTERED AT 15:45:52 ON 02 APR 2003

FILE 'CAPLUS' ENTERED AT 15:45:52 ON 02 APR 2003

FILE 'BIOSIS' ENTERED AT 15:45:52 ON 02 APR 2003

FILE 'WPIDS' ENTERED AT 15:45:52 ON 02 APR 2003

PROCESSING COMPLETED FOR L150
PROCESSING COMPLETED FOR L151
PROCESSING COMPLETED FOR L149
PROCESSING COMPLETED FOR L152
PROCESSING COMPLETED FOR L61
L153 11 DUP REM L150 L151 L149 L152 L61 (8 DUPLICATES REMOVED)
ANSWERS '1-4' FROM FILE BIOTECHNO
ANSWERS '5-7' FROM FILE BIOTECHDS
ANSWER '8' FROM FILE CAPLUS
ANSWER '9' FROM FILE BIOSIS
ANSWERS '10-11' FROM FILE WPIDS

=> d ibib ab 1-11

L153 ANSWER 1 OF 11 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.DUPLICATE
ACCESSION NUMBER: 2002:34856433 BIOTECHNO
TITLE: Compact disc with both numeric and genomic information as DNA microarray platform
AUTHOR: Alexandre I.; **Houbion Y.**; Collet J.; Hamels S.; **Demarteau J.**; Gala J.-L.; Remacle J.
CORPORATE SOURCE: Dr. I. Alexandre, Laboratoire de Biochimie Cellulaire, FUNDP, 61 rue de Bruxelles, Namur, Belgium. E-mail: isabelle.alexandre@fundp.ac.be
SOURCE: BioTechniques, (2002), 33/2 (435-439), 14 reference(s) CODEN: BTNQDO ISSN: 0736-6205
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The compact disc (CD) is an ideal tool for reading, writing, and storing numeric information. It was used in this work as a support for constructing DNA microarrays suited for genomic analysis. The CD was divided into two functional areas: the external ring of the CD was used for multiparametric DNA analysis on arrays, and the inner portion was used for storing numeric information. Because polycarbonate and CD resins autofluoresce, a colorimetric method for DNA microarray detection was used that is well adapted for the fast detection necessary when using a CD reader. A double-sided CD reader was developed for the simultaneous

analysis of both array and numeric data. The numeric data are engraved as pits in the CD tracks and result in the succession of 0/1, which results from the modulation of the laser reflection when one reads the edges of the pits. Another diffraction-based laser was placed above the CD for the detection of the DNA targets on the microarrays. Both readers fit easily in a PC tower. Both numeric and genomic information data were simultaneously acquired, and each array was reconstituted, analyzed, and processed for quantification by the appropriate software.

L153 ANSWER 2 OF 11 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.DUPLICATE
ACCESSION NUMBER: 2002:34775184 BIOTECHNO
TITLE: Gene expression profiling of drug metabolism and toxicology markers using a low-density DNA microarray
AUTHOR: **De Longueville F.**; Surry D.; Meneses-Lorente G.; Bertholet V.; Talbot V.; Evrard S.; Chandelier N.; Pike A.; Worboys P.; Rasson J.-P.; Le Bourdelles B.; Remacle J.
CORPORATE SOURCE: F. De Longueville, Laboratory of Biochemistry, University of Namur, Rue de Bruxelles, Namur 5000, Belgium.
E-mail: francoise.delongueville@fundp.ac.be
SOURCE: Biochemical Pharmacology, (01 JUL 2002), 64/1 (137-149), 44 reference(s)
CODEN: BCPCA6 ISSN: 0006-2952
PUBLISHER ITEM IDENT.: S0006295202010559
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AB DNA microarrays are useful tools to study changes of gene expression in response to a treatment with drugs. Here, we describe the optimization of conditions for the cDNA synthesis and hybridization protocols to be used for a low-density DNA microarray called 'Rat HepatoChips.' This DNA microarray with 59 carefully selected genes could be used to study changes in gene expression levels due to a treatment with xenobiotic. These 59 genes (including 8 housekeeping genes) have been selected among potential toxic markers involved in basic cellular processes and drug metabolism related genes. Using the optimized conditions, the results were shown to be reproducible, with 6% variation between the duplicated spots and 10% between arrays. Conditions were optimized to allow quantification with a dynamic range of four log units. In order to demonstrate the major advantage of these tool for studying gene expression, samples of control rat liver were compared with those of animals dosed with phenobarbital (PB) or pregnenolone-16.alpha.-carbonitrile (PCN), two compounds well known to induce cytochrome P450 isoforms of 2B and 3A subfamilies, respectively. This microarray has shown that other genes apart from the corresponding CYP P450 genes have been changed due to PB and PCN treatment. Apoptosis-related genes have shown to be changed due to PB and PCN treatment, which confirms results from previous work. .COPYRGT. 2002 Elsevier Science Inc. All rights reserved.

L153 ANSWER 3 OF 11 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.DUPLICATE
ACCESSION NUMBER: 2001:32721734 BIOTECHNO
TITLE: Colorimetric **silver** detection of DNA **microarrays**
AUTHOR: **Alexandre I.**; **Hamels S.**; Dufour S.; Collet J.; **Zammatteo N.**; **De Longueville F.**; Gala J.-L.; Remacle J.
CORPORATE SOURCE: I. Alexandre, Laboratoire de Biochimie Cellulaire, Facultes Univ. Notre Dame de la Paix, 61 Rue de Bruxelles, 5000 Namur, Belgium.
E-mail: isabelle.alexandre@fundp.ac.be

Searched by Barb O'Bryen, STIC 308-4291

SOURCE: Analytical Biochemistry, (01 AUG 2001), 295/1 (1-8), 17 reference(s)
CODEN: ANBCA2 ISSN: 0003-2697
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Development of **microarrays** has revolutionized gene expression analysis and molecular diagnosis through miniaturization and the multiparametric features. Critical factors affecting detection efficiency of targets hybridization on **microarray** are the design of capture probes, the way they are attached to the support, and the sensitivity of the detection method. **Microarrays** are currently detected in fluorescence using a sophisticated confocal laser-based scanner. In this work, we present a new colorimetric detection method which is intented to make the use of **microarray** a powerful procedure and a low-cost tool in research and clinical settings. The signal generated with this method results from the **precipitation** of **silver** onto nanogold particles bound to streptavidin, the latter being used for detecting biotinylated DNA. This colorimetric method has been compared to the Cy-3 fluorescence method. The detection limit of both methods was equivalent and corresponds to 1 amol of biotinylated DNA attached on an **array**. Scanning and data analysis of the **array** were obtained with a colorimetric-based workstation. .COPYRGT. 2001 Academic Press.

L153 ANSWER 4 OF 11 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
ACCESSION NUMBER: 1998:28465701 BIOTECHNO
TITLE: Quantitative determination of CMV DNA using a combination of competitive PCR amplification and sandwich hybridization
AUTHOR: **Alexandre I.**; **Zammatteo N.**; Ernest I.; Ladriere J.-M.; Le L.; **Hamels S.**; Chandelier N.; Vipond B.; Remacle J.
CORPORATE SOURCE: Dr. J. Remacle, Lab. of Biochemistry/Cell Biology, University of Namur, 64, Rue de Bruxelles, B-5000 Namur, Belgium.
E-mail: pbon@biocell.fundp.ac.be
SOURCE: BioTechniques, (1998), 25/4 (676-683), 32 reference(s)
CODEN: BTNQDO ISSN: 0736-6205
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English

AB A quantitative PCR method is proposed that combines the use of a competitive internal standard with the sandwich hybridization of the products. The variability of the PCR efficiency was corrected using a specifically designed internal standard, competitive not only for the PCR amplification, but also for the hybridization on capture probes fixed onto microwells. The design of such standard gave a dynamic range extending from 30-1 million copies of target DNA when the internal standard copy number was fixed to 1000 using a simple colorimetric detection. The assay was independent from the number of PCR cycles, which indicates a true competition between the standard and the template DNA. The assay was developed for a cytomegalovirus (CMV) DNA sequence and is illustrated by the quantification of CMV in a culture sample.

L153 ANSWER 5 OF 11 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-10102 BIOTECHDS
TITLE: Identification of homologous nucleotide sequences, useful in identifying Single Nucleotide Polymorphisms, comprises reverse hybridization on **biochips**;
DNA **chip** construction for SNP analysis

AUTHOR: **REMACLE J**; ART M; LOCKMAN L; **ZAMMATTEO N**
PATENT ASSIGNEE: UNIV NOTRE-DAME DE LA PAIX
PATENT INFO: EP 1164201 19 Dec 2001
APPLICATION INFO: EP 2000-870127 14 Jun 2000
PRIORITY INFO: EP 2000-870127 14 Jun 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-156570 [21]

AB DERWENT ABSTRACT:

NOVELTY - Identification, discrimination and/or quantification of one or more homologous target nucleotide sequences by reverse hybridization on **biochips** (M1), is new.

DETAILED DESCRIPTION - Identification, discrimination and/or quantification of one or more homologous target nucleotide sequences (III) comprises using two sets of nucleotide sequences. One set of nucleotide sequences (I) are possibly labelled and bind to (III) and are detected and/or quantified through hybridization with a second set of capture nucleotide sequences (II). (II) is partly complementary in sequence to (I) and is immobilized on a solid support comprising an **array** of a least 4 discrete regions/cm2, where each of these regions is bonded with one species of (II). Identification and quantification of the binding between (I) and (II) is correlated with the identification and quantification of a target nucleotide sequence (III) present in a sample. INDEPENDENT CLAIMS are also included for the following: (1) apparatus (A1) for diagnostic and/or quantification of one or more homologous target nucleotide sequences possibly present in a sample using (M1); and (2) a machine (A2) or automate for performing (M1) upon (A1).

BIOTECHNOLOGY - Preferred Method: Binding of (I) and (III) occurs in solution. (I) which has not bound to (III) is removed and (I) that has bound to (III) is detached before use in the second binding step. (III) is bound firstly to the solid support by covalent bonding before its hybridization binding with one or more of (I). The solid support is selected from glass, electronic devices, silicon supports, compact discs, filters, **metallic** supports, polylysine coated surfaces or mixtures. Preferred Nucleotides: (I) has a length which is essentially identical or similar, preferably more than 80% similar, to that of (II). (III) comprises sequences with homology between each other of more than 30%, 60%, or more preferably 80%, and which differ from each other by only one base. (I) comprises a sequence of 10-60, preferably 15-30, bases that are specific to (III). (II) comprises sequences complementary to (I) upon their complete sequence or has a sequence which is bound to the solid support through spacers having a length of 10-200 bases. (I) contains sequence not specific to (III) but to (II). Furthermore, (I) contains a mixture of two or more labelled sequences terminated by a different nucleotide which binds to the target sequence adjacent to the possible Single Nucleotide Polymorphism (SNP). One end of the nucleotide is perfectly matched to the SNP and another annexed probe will bind to the other site of the SNP target. The perfectly matched probe is ligated to this probe by a ligase before detection on the capture probe **array**. (I) contains a mixture of probes each one differing in at least one base located at the SNP site and treated with a specific nuclease before being detected on the capture probe **array**. (III) are rRNAs, preferably 16S, 23S, 18S and 25S rRNAs, or mRNAs, preferably a mRNA retrotranscripted into a cDNA by a consensus sequence.

USE - (M1) can be used in the identification of specific species of micro-organisms belonging to the same family or in the detection and/or quantification of various isotypes of a general sequence belonging to a specific organism. This allows the discrimination of very homologous sequences, from 30 - 90% homology, including Single Nucleotide Polymorphism sequences. (M1) can be used in research where genes have to be identified specifically among a population of related genes coding for proteins having different roles in normal or pathological situations.

Example of this include regulatory genes like receptors, kinases, phosphatases, cyclins, transcriptional factors or oncogenes. (M1) can be used to detect mutations in target sequences which is especially useful if they are correlated with a pathological situation, e.g., mutations in oncogenes.

ADVANTAGE - The labelled nucleotide sequences (I) that bind specifically to the target sequences(III) comprise small labelled nucleotide sequences which (I) can therefore discriminate between two sequences differing in one base (Single Nucleotide Polymorphism (SNP)), thus allowing the determination of the polymorphism. Also the hybridization rate is influenced by the length of the capture nucleotide sequences (II), in that longer (II) results in a faster hybridization. The double step hybridization method (M1) is capable of detecting (III) without being labelled by a copy or amplification step. In prior art methods (III) was labelled during the amplification or transcription step resulting in interference with labelled reagent and reassociation of the amplified double stranded target DNA.

EXAMPLE - Identification of Staphylococcus species by detection of the specific FemA genes. The FemA genes are very conserved and have a homology of 50-90% between the specific Staphylococcus species. The identification of Staphylococcus epidermidis in a sample was performed using a preamplification by consensus primers which amplified the five most common Staphylococcus: S. aureus, S. epidermidis, S. haemolyticus, S. hominis and S. saprophiticus. One primer was aminated so that one strand of the amplicons had an amino group at its 5' end. The amplicons were purified by chromatography in order to eliminate aminated primers and free nucleotides. 100 microl of a solution of SSC3X pH 5 containing 150 nM of purified amplicons was incubated for 30 minutes at 23 degreesC on silylated microscopic slides framed by a hybridization chamber. After incubation the slides were washed once with 0.1% SDS, twice with water and incubated for 5 minutes with NaBH4 and then 3 minutes in boiling water to denature. The labelled nucleotide sequences specific to the five Staphylococcus species were incubated with the single stranded amplicons. 100 microl of hybridization solution, 0.5 M phosphate buffer pH 7.4, 7% SDS, 100 microg/ml salmon sperm DNA, 30 nM of S. epidermidis biotinylated nucleotide sequences (1 nucleotide sequence) or 30 nM of each of the nucleotide sequences (5 nucleotide sequences), was loaded onto a glass slide bearing the target DNA. Hybridization was carried out in a hybridization chamber at 60 degreesC for 2 hours and hybridized probes were released and recovered in solution by incubation with NaOH within the hybridization area. A hybridization control was taken at this point. The aminated capture nucleotide sequences were spotted at a concentration of 1.6 M and printed onto the silylated microscope slides with a home made **arrayer**. 250 microm pins from Genetix (UK) and silylated (aldehyde) microscope slides from Cell Associates (Houston) were used. The spots were 400 microm in diameter and in volume dispensed 1 nanolitre. The capture nucleotide sequences were complementary to the labelled nucleotide sequences and were terminated by an amino group at their 5' end. 106 microl of the denatured solution added onto the **array** slide was incubated for 30 minutes at 50 degreesC and then washed. Slides were then incubated at room temperature with 800 microl of streptavidin labelled cyabin 5 that was 500x diluted in Maleic buffer with 0.1% Gloria milk powder, and read with a confocal scanner. An immobilized target sequence of S. aureus in the presence of the S. epidermidis labelled probe was not detected on the **array**, only the spots bearing the capture nucleotide sequences specific for S. epidermidis were positive.(21 pages)

L153 ANSWER 6 OF 11 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2001-03816 BIOTECHDS
TITLE: Specific binding assay, e.g. for nucleic acids, antigens, antibodies, receptors or ligands, comprises **precipitate** formation on an **array** of

capture molecules;
method is useful for identifying and quantifying DNA

AUTHOR: **Remacle J; Zammatteo N; Alexandre I; Hamels S; Houbion Y; De Longueville F**
PATENT ASSIGNEE: Remacle J
LOCATION: Malone, Belgium.
PATENT INFO: EP 1054259 22 Nov 2000
APPLICATION INFO: EP 1999-870106 19 May 1999
PRIORITY INFO: EP 1999-870106 19 May 1999
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2001-042384 [06]

AB A method for identifying or quantifying a target compound obtained from a sample is claimed. It involves contacting it with capture molecules immobilized in discrete regions on a solid surface having 20 discrete region per cm sq, to allow binding between the target compound and a capture molecule, forming a **precipitate** at the location of binding, where the **precipitate**-forming reaction contains reduction of a **silver** compound in the presence of colloidal gold coupled to the bound target compound, and detecting any **precipitate** in the discrete regions. Also claimed are: diagnostic and quantification apparatus of identical or different target compounds obtained from a sample; and a computer program product containing a means for collecting the results obtained from detecting device and possibly the information from the reading device to carry out a diagnostic or quantification of a target compound. The method is especially useful for identifying or quantifying target compounds, e.g. DNA, antigens, antibodies, receptor, or ligands from biological sample. (13pp)

L153 ANSWER 7 OF 11 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2001-04875 BIOTECHDS
TITLE: Identifying or quantifying a target compound, especially from a biological sample, comprises using a capture molecule fixed on a solid support which forms a precipitate in discrete regions;
method useful for detecting nucleic acid, antigen and receptor

AUTHOR: Remacle J; **Demarteau J**; Zammatteo N; Alexandre I; Hamels S; **Houbion Y**; de Longueville F
PATENT ASSIGNEE: Advanced-Array-Technologies
LOCATION: Malonne, Belgium.
PATENT INFO: WO 2000072018 30 Nov 2000
APPLICATION INFO: WO 2000-EP54 16 May 2000
PRIORITY INFO: EP 2000-870025 18 Feb 2000; EP 1999-870106 19 May 1999
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2001-091011 [10]

AB A method (M1) for identifying or quantifying a target compound (TC) uses a capture molecule (CM) fixed on a solid surface which forms a precipitate in discrete regions. Also claimed are: a diagnostic or quantification apparatus for one or more identical or different TCs obtained from a sample; a computer program containing program code device for determining the presence of a precipitate at the discrete regions and correlating the presence of the precipitate at the discrete region with the identification or the quantification of a TC; and a computer program product containing program code device stored on a computer readable medium. The method is useful for the identification or quantification of a TC, particularly in a biological sample. They can be used for the detection of nucleic acid molecules, antigens, antibody, ligands and receptors. (40pp)

L153 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 6
ACCESSION NUMBER: 2000:842375 CAPLUS
DOCUMENT NUMBER: 134:14900
TITLE: Method and apparatus for the identification and/or the quantification of a target compound
INVENTOR(S): **Remacle, Jose; Demarteau, Joseph; Zammatteo, Nathalie; Alexandre, Isabelle; Hamels, Sandrine; Houbion, Yves; De Longueville, Francoise**
PATENT ASSIGNEE(S): Advanced Array Technologies S. A., Belg.
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000072018	A1	20001130	WO 2000-BE54	20000516
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1054259	A1	20001122	EP 1999-870106	19990519
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1179180	A1	20020213	EP 2000-929132	20000516
EP 1179180	B1	20021009		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000011603	A	20020312	BR 2000-11603	20000516
AT 225940	E	20021015	AT 2000-929132	20000516
JP 2003500652	T2	20030107	JP 2000-620355	20000516

PRIORITY APPLN. INFO.:
EP 1999-870106 A 19990519
EP 2000-870025 A 20000218
WO 2000-BE54 W 20000516

AB The present invention is related to a method for the identification and/or the quantification of a target compd. obtained from a sample, preferably a biol. sample, comprising the steps of: putting into contact the target compd. with a capture mol. in order to allow a specific binding between said target compd. with a capture mol., said capture mol. being fixed upon a surface of a solid support according to an array comprising a d. of at least 20 discrete regions per cm2, each of said discrete regions being fixed with one species of capture mols., performing a reaction leading to a ppt. formed at the location of said binding, detg. the possible presence of ppt.(s) in discrete region(s), and correlating the presence of the ppt.(s) at the discrete region(s) with the identification and/or a quantification of said target compd. CMV DNA or bovine serum albumin were detected on biochips having activated glass-immobilized aminated amplicons or antibodies, resp. Biotinylated DNA or antibodies, nanogold particles linked to streptavidin, and silver enhancement reagent were used. The arrays were scanned and the digitalized image was treated with form recognition software in order to delimitate and identify the spots.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L153 ANSWER 9 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1977:24985 BIOSIS
DOCUMENT NUMBER: BR13:24985
TITLE: ULTRASTRUCTURE OF THE DESMOSOMAL MEMBRANES AFTER FREEZE ETCHING.
AUTHOR(S): RONVEAUX M-F; **HOUBION Y**; LELOUP R; DROCHMANS P
SOURCE: J. Microsc. Biol. Cell., (1975 (RECD 1976)) 23 (2), 72A-73A.
CODEN: JMBCDT. ISSN: 0395-9260.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: Unavailable

L153 ANSWER 10 OF 11 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-309857 [33] WPIDS
DOC. NO. CPI: C2001-095867
TITLE: Detecting, quantifying multiple target nucleotide sequences in biological sample for detecting microorganisms or genetic characteristics, by amplifying target sequence and hybridizing on single stranded capture probes.
DERWENT CLASS: B04 D16
INVENTOR(S): **ALEXANDRE, I; DE LONGUEVILLE, F; HAMELS, S; REMACLE, J; ZAMMATTEO, N**
PATENT ASSIGNEE(S): (REMA-I) REMACLE J; (UYNO-N) UNIV NOTRE-DAME DE LA PAIX
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1096024	A1	20010502	(200133)*	EN	27
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
WO 2001031055	A2	20010503	(200133)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001011210	A	20010508	(200149)		
EP 1224331	A2	20020724	(200256)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1096024	A1	EP 1999-870226	19991028
WO 2001031055	A2	WO 2000-BE123	20001017
AU 2001011210	A	AU 2001-11210	20001017
EP 1224331	A2	EP 2000-972485	20001017
		WO 2000-BE123	20001017

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001011210	A	Based on	WO 200131055
EP 1224331	A2	Based on	WO 200131055

PRIORITY APPLN. INFO: EP 1999-870226 19991028
AB EP 1096024 A UPAB: 20010615
NOVELTY - Detecting and/or quantifying multiple homologous target nucleotide sequences (NS) in biological sample, comprises amplifying or copying a part of original NS into target NS, contacting with corresponding single stranded capture NS bound to an insoluble solid support and detecting and/or quantifying a signal resulting from formation of double stranded NS resulting from their hybridization.

DETAILED DESCRIPTION - Detecting and/or quantifying multiple target nucleotide sequences (NS), homologous to each other and present in biological sample, comprises:

(a) amplifying or copying a part of original NS into target NS;

(b) contacting target NS with corresponding capture NS bound to an insoluble support, where the capture NS are single stranded, 40-400 base pairs in length and bound to the support in an **array** density of at least 5 different capture NS/cm2 surface solid support; and

(c) detecting and/or quantifying a signal resulting from formation of double stranded NS resulting from their hybridization by complementary base pairing.

An INDEPENDENT CLAIM is also included for a diagnostic and/or quantification kit or apparatus, comprising insoluble solid support upon which single stranded capture NS (allowing specific hybridization with target NS to be detected and/or quantified) are bounded, preferably by a covalent link.

USE - The method is useful for detecting and/or quantifying multiple nucleotide sequences in the biological sample. The original NS to be detected and/or quantified includes rRNAs, preferably 16S, 23S, 18S or 28S rRNAs, FemA specific genetic sequences of Staphylococci, preferably, the FemA genes of S.aureus, S.epidermidis, S.saprophyticus, S.hominis and/or S.hemolyticus (claimed).

The detection of signal is correlated to the presence of specific microorganisms or genetic characteristics (polymorphisms, genetic diseases, diagnostic or monitoring of a cancer, etc) for a patient (whose biological sample is tested).

ADVANTAGE - The method is improved in specificity and sensitivity compared to conventional techniques.

Dwg.0/3

L153 ANSWER 11 OF 11 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1999-458323 [38] WPIDS
DOC. NO. NON-CPI: N1999-342829
DOC. NO. CPI: C1999-134560
TITLE: Detecting and quantifying target molecule in sample by its binding with non-cleavable capture molecule fixed on disc surface.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **REMACLE, J; ALEXANDRE, I; HOUBION, Y**
PATENT ASSIGNEE(S): (REMA-I) REMACLE J; (ALEX-I) ALEXANDRE I; (HOUB-I) HOUBION Y
COUNTRY COUNT: 77
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9935499	A1	19990715	(199938)*	EN	44
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AU BA BB BG BR CA CN CU CZ DE EE GD GE HR HU ID IL IN IS JP KP KR LC LK LR LT LV MG MK MN MX NO NZ PL RO SG SI SK SL TR TT UA US UZ VN YU					
AU 9920418	A	19990726	(199952)		
EP 1044375	A1	20001018	(200053)	EN	

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE
BR 9814726 A 20001017 (200056)
CN 1285917 A 20010228 (200131)
MX 2000006505 A1 20010201 (200168)
JP 2002501174 W 20020115 (200207) 44
AU 746768 B 20020502 (200238)
US 2002177144 A1 20021128 (200281)

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9935499	A1		WO 1998-BE206	19981224
AU 9920418	A		AU 1999-20418	19981224
EP 1044375	A1		EP 1998-965057	19981224
			WO 1998-BE206	19981224
BR 9814726	A		BR 1998-14726	19981224
			WO 1998-BE206	19981224
CN 1285917	A		CN 1998-812804	19981224
MX 2000006505	A1		MX 2000-6505	20000629
JP 2002501174	W		WO 1998-BE206	19981224
			JP 2000-527830	19981224
AU 746768	B		AU 1999-20418	19981224
US 2002177144	A1	Provisional	US 1997-71726P	19971230
		CIP of	WO 1998-BE206	19981224
		CIP of	US 2000-582817	20001108
			US 2001-35822	20011227

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9920418	A	Based on	WO 9935499
EP 1044375	A1	Based on	WO 9935499
BR 9814726	A	Based on	WO 9935499
JP 2002501174	W	Based on	WO 9935499
AU 746768	B	Previous Publ.	AU 9920418
		Based on	WO 9935499

PRIORITY APPLN. INFO: US 1997-71726P 19971230; US 2000-582817 20001108; US 2001-35822 20011227

AB WO 9935499 A UPAB: 19990922
NOVELTY - The method for the detection and/or the quantification of a target molecule present in a (biological) sample comprises, allowing a binding between the target molecule and a capture molecule fixed upon the surface of a solid support, e.g. a disc comprising registered data, resulting in a signal, and allowing a detection and/or quantification of the signal with the proviso that the signal is not obtained through cleavage of the capture molecule.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a disc comprising registered data, and further comprising a non-cleavable capture molecule fixed to its surface, to allow binding with a target molecule to be detected and/or quantified;

(2) the preparation of the disc;

(3) a diagnostic kit comprising the disc and the reactants allowing binding between a target molecule and its capture molecule and possibly the reactants allowing the detection of the signal which results from the binding; and

(4) the detection and/or reading device which allows the detection and/or quantification of the signal which results from the binding between a target molecule present in a sample and its capture molecule and comprises the above disc and means for the detection and/or quantification

of the signal.

USE - The method is useful for the detection and/or quantification method of a target molecule by its binding with a capture molecule fixed to the surface of a disc, especially for detecting a target molecule (e.g. nucleic acids, antibodies, saccharides, lipids, peptides, proteins, lectins, catalysts, receptors, agonists or antagonists of receptors, fluorophores, chromophores, chelates, haptens, ions, molecules having different chiral structures, new synthetic chemical macromolecules obtained by combinatorial chemistry or other functionalized macrostructures) in blood, urine, cerebrospinal fluid, plasma, saliva, semen, amniotic fluid, air, water, soil, or disrupted biological matter.

ADVANTAGE - The disc enables the ability to compress data to such a fine degree and read it back accurately. It also has the capability of storing huge amounts of data. The laser provides a means for precise detection and registration, due to its intensive and narrowly focused beam. Each strip can be loaded with several different capture molecules that will react specifically with the sample or different samples to be analyzed. The disc can be read individually or simultaneously upon the same disc.

Dwg.0/7

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=> fil capl

FILE 'CAPLUS' ENTERED AT 15:48:19 ON 02 APR 2003
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FILE COVERS 1907 - 2 Apr 2003  VOL 138 ISS 14
FILE LAST UPDATED: 1 Apr 2003  (20030401/ED)
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text search

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> d que l26; d que l30; d que l32; d que l36; d que l42

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L13           1 SEA FILE=REGISTRY ABB=ON  GOLD/CN
L14      132741 SEA FILE=CAPLUS ABB=ON  L12
L15        1850 SEA FILE=CAPLUS ABB=ON  L13(L)COLLOID?
L16       10893 SEA FILE=CAPLUS ABB=ON  L14(L)ANST/RL
L17         427 SEA FILE=CAPLUS ABB=ON  L15(L)ANST/RL
L18        8171 SEA FILE=CAPLUS ABB=ON  CAMERA#/OBI
L19       53536 SEA FILE=CAPLUS ABB=ON  CCD OR CMOS OR MOS
L20        1236 SEA FILE=CAPLUS ABB=ON  L18(L)L19
L21        1006 SEA FILE=CAPLUS ABB=ON  METALS/CT(L)PRECIPITAT?
L22          17 SEA FILE=CAPLUS ABB=ON  L21(L)ANST/RL
L26           6 SEA FILE=CAPLUS ABB=ON  (L16 OR L17 OR L22) AND L20
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- Role - analytical study

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L13           1 SEA FILE=REGISTRY ABB=ON  GOLD/CN
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L15        1850 SEA FILE=CAPLUS ABB=ON  L13(L)COLLOID?
L16       10893 SEA FILE=CAPLUS ABB=ON  L14(L)ANST/RL
L17         427 SEA FILE=CAPLUS ABB=ON  L15(L)ANST/RL
L18        8171 SEA FILE=CAPLUS ABB=ON  CAMERA#/OBI
L21        1006 SEA FILE=CAPLUS ABB=ON  METALS/CT(L)PRECIPITAT?
L22          17 SEA FILE=CAPLUS ABB=ON  L21(L)ANST/RL
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L28       26144 SEA FILE=CAPLUS ABB=ON  (CHIP# OR BIOCHIP# OR MICROCHIP#)/OBI
L29         150 SEA FILE=CAPLUS ABB=ON  (L16 OR L17 OR L22) AND (L27 OR L28)
L30           2 SEA FILE=CAPLUS ABB=ON  L29 AND L18

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L13           1 SEA FILE=REGISTRY ABB=ON  GOLD/CN
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L15        1850 SEA FILE=CAPLUS ABB=ON  L13(L)COLLOID?
L16       10893 SEA FILE=CAPLUS ABB=ON  L14(L)ANST/RL
L17         427 SEA FILE=CAPLUS ABB=ON  L15(L)ANST/RL
L21        1006 SEA FILE=CAPLUS ABB=ON  METALS/CT(L)PRECIPITAT?
L22          17 SEA FILE=CAPLUS ABB=ON  L21(L)ANST/RL
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L28       26144 SEA FILE=CAPLUS ABB=ON  (CHIP# OR BIOCHIP# OR MICROCHIP#)/OBI
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L31        6699 SEA FILE=CAPLUS ABB=ON  PRECIPITATES/CT OR "PRECIPITATION
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L32           3 SEA FILE=CAPLUS ABB=ON  L29 AND L31
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L35      128849 SEA FILE=CAPLUS ABB=ON  (METALLIC# OR ELECTROMAGNETIC? OR
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L36           1 SEA FILE=CAPLUS ABB=ON  L35 AND (L27 OR L28) AND L33
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L13           1 SEA FILE=REGISTRY ABB=ON  GOLD/CN
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L15        1850 SEA FILE=CAPLUS ABB=ON  L13(L)COLLOID?
L16       10893 SEA FILE=CAPLUS ABB=ON  L14(L)ANST/RL
L17         427 SEA FILE=CAPLUS ABB=ON  L15(L)ANST/RL
L21        1006 SEA FILE=CAPLUS ABB=ON  METALS/CT(L)PRECIPITAT?
L22          17 SEA FILE=CAPLUS ABB=ON  L21(L)ANST/RL
L33       96148 SEA FILE=CAPLUS ABB=ON  PRECIPITAT?/OBI
L35      128849 SEA FILE=CAPLUS ABB=ON  (METALLIC# OR ELECTROMAGNETIC? OR
                ELECTRO(L)MAGNETIC?)/OBI
L37         977 SEA FILE=CAPLUS ABB=ON  (L16 OR L17 OR L22 OR L35) AND L33
L38          40 SEA FILE=CAPLUS ABB=ON  L37 AND 9/SC,SX
L41       15679 SEA FILE=CAPLUS ABB=ON  COLLOIDS/CT
L42           5 SEA FILE=CAPLUS ABB=ON  L38 AND L41
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— Section code
Biochemical methods

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=> s (126 or 130 or 132 or 136 or 142) not l149
L154         12 (L26 OR L30 OR L32 OR L36 OR L42) NOT L149
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previously printed w/ inventor search

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FILE LAST UPDATED:          2 APR 2003      <20030402/UP>
MOST RECENT DERWENT UPDATE:     200322        <200322/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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 http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
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GUIDES, PLEASE VISIT:
http://www.derwent.com/userguides/dwpi_guide.html <<<

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L51       130543 SEA FILE=WPIDS ABB=ON  ARRAY? OR MICROARRAY?
L52       139218 SEA FILE=WPIDS ABB=ON  (CHIP# OR BIOCHIP# OR MICROCHIP#)
L53        91325 SEA FILE=WPIDS ABB=ON  PRECIPITAT?
L54       260580 SEA FILE=WPIDS ABB=ON  METALLIC# OR SILVER OR GOLD
L55         2334 SEA FILE=WPIDS ABB=ON  COLLOID?(5A)(METAL# OR GOLD)
L56       132074 SEA FILE=WPIDS ABB=ON  ELECTROMAGNETIC? OR ELECTRO MAGNETIC?
L63            6 SEA FILE=WPIDS ABB=ON  (L51 OR L52) AND L53 AND (L54 OR L55 OR
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Derwent code - Instrumentation, Measuring, & Testing

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L52       139218 SEA FILE=WPIDS ABB=ON  (CHIP# OR BIOCHIP# OR MICROCHIP#)
L53        91325 SEA FILE=WPIDS ABB=ON  PRECIPITAT?
L54       260580 SEA FILE=WPIDS ABB=ON  METALLIC# OR SILVER OR GOLD
L55         2334 SEA FILE=WPIDS ABB=ON  COLLOID?(5A)(METAL# OR GOLD)
L56       132074 SEA FILE=WPIDS ABB=ON  ELECTROMAGNETIC? OR ELECTRO MAGNETIC?
L57       139840 SEA FILE=WPIDS ABB=ON  CAMERA#
L58         8187 SEA FILE=WPIDS ABB=ON  L57(5A)(CCD OR CMOS OR MOS)
L65          158 SEA FILE=WPIDS ABB=ON  (L54 OR L55 OR L56) AND L58
L66           29 SEA FILE=WPIDS ABB=ON  L65 AND (L51 OR L52 OR L53)
L70            8 SEA FILE=WPIDS ABB=ON  L66 AND B04/DC
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Derwent code - Natural products & polymers

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=> s (163 or 170) not 161

L155          12 (L63 OR L70) NOT L61
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previously printed

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=> fil biotechno; d que l92; s l92 not l150

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FILE LAST UPDATED: 1 APR 2003          <20030401/UP>
FILE COVERS 1980 TO DATE.

>>>  SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
     /CT AND BASIC INDEX  <<<


L79       12667 SEA FILE=BIOTECHNO ABB=ON  ARRAY? OR MICROARRAY?
L80        1936 SEA FILE=BIOTECHNO ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L81       15470 SEA FILE=BIOTECHNO ABB=ON  PRECIPITAT?
L82        5492 SEA FILE=BIOTECHNO ABB=ON  METALLIC# OR SILVER
L83          46 SEA FILE=BIOTECHNO ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
L84         437 SEA FILE=BIOTECHNO ABB=ON  ELECTROMAGNETIC?
L92           2 SEA FILE=BIOTECHNO ABB=ON  (L79 OR L80) AND L81 AND (L82 OR
                L83 OR L84)


L156          1 L92 NOT L150
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previously printed

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=> fil biotechds; d que l119; d que l121

FILE 'BIOTECHDS' ENTERED AT 15:48:32 ON 02 APR 2003
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FILE LAST UPDATED: 1 APR 2003          <20030401/UP>
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>>> NEW CLASSIFICATION SYSTEM FROM 2002 ONWARDS - SEE HELP CLA <<<

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L109        5041 SEA FILE=BIOTECHDS ABB=ON  ARRAY? OR MICROARRAY?
L110        3197 SEA FILE=BIOTECHDS ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L111       11777 SEA FILE=BIOTECHDS ABB=ON  PRECIPITAT?
L112        1197 SEA FILE=BIOTECHDS ABB=ON  METALLIC# OR SILVER
L113          24 SEA FILE=BIOTECHDS ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
L114         242 SEA FILE=BIOTECHDS ABB=ON  ELECTROMAGNET?
L115          17 SEA FILE=BIOTECHDS ABB=ON  ELECTRO MAGNET?
L119           4 SEA FILE=BIOTECHDS ABB=ON  (L109 OR L110) AND L111 AND (L112
                 OR L113 OR L114 OR L115)
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L109        5041 SEA FILE=BIOTECHDS ABB=ON  ARRAY? OR MICROARRAY?
L110        3197 SEA FILE=BIOTECHDS ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L111       11777 SEA FILE=BIOTECHDS ABB=ON  PRECIPITAT?
L112        1197 SEA FILE=BIOTECHDS ABB=ON  METALLIC# OR SILVER
L113          24 SEA FILE=BIOTECHDS ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
L114         242 SEA FILE=BIOTECHDS ABB=ON  ELECTROMAGNET?
L115          17 SEA FILE=BIOTECHDS ABB=ON  ELECTRO MAGNET?
L116          44 SEA FILE=BIOTECHDS ABB=ON  (CCD OR CMOS OR MOS) AND CAMERA#
L121           2 SEA FILE=BIOTECHDS ABB=ON  (L109 OR L110) AND L116 AND (L111
                 OR L112 OR L113 OR L114 OR L115)
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=> s (l119 or l121) not l151

L157           5 (L119 OR L121) NOT L151
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=> fil biosis; d que l139; d que l141

FILE 'BIOSIS' ENTERED AT 15:48:37 ON 02 APR 2003
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 26 March 2003 (20030326/ED)
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L129       38181 SEA FILE=BIOSIS ABB=ON  ARRAY? OR MICROARRAY?
L130        5878 SEA FILE=BIOSIS ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L131       76577 SEA FILE=BIOSIS ABB=ON  PRECIPITAT?
L132       34012 SEA FILE=BIOSIS ABB=ON  METALLIC# OR SILVER
L133         330 SEA FILE=BIOSIS ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
L134        9569 SEA FILE=BIOSIS ABB=ON  ELECTROMAGNET? OR ELECTRO MAGNET?
L139           3 SEA FILE=BIOSIS ABB=ON  (L129 OR L130) AND L131 AND (L132 OR
                 L133 OR L134)
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L129       38181 SEA FILE=BIOSIS ABB=ON  ARRAY? OR MICROARRAY?
L130        5878 SEA FILE=BIOSIS ABB=ON  CHIP# OR BIOCHIP# OR MICROCHIP#
L131       76577 SEA FILE=BIOSIS ABB=ON  PRECIPITAT?
L132       34012 SEA FILE=BIOSIS ABB=ON  METALLIC# OR SILVER
L133         330 SEA FILE=BIOSIS ABB=ON  (GOLD OR METAL#)(3A)COLLOID#
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L134        9569 SEA FILE=BIOSIS ABB=ON  ELECTROMAGNET? OR ELECTRO MAGNET?
L135        1096 SEA FILE=BIOSIS ABB=ON  (CCD OR CMOS OR MOS) AND CAMERA#
L141           0 SEA FILE=BIOSIS ABB=ON  (L129 OR L130) AND (L131 OR L132 OR
               L133 OR L134) AND L135

=> s l139 not l152

L158           2 L139 NOT L152

=> dup rem l156,l157,l154,l158,l155

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PROCESSING COMPLETED FOR L156
PROCESSING COMPLETED FOR L157
PROCESSING COMPLETED FOR L154
PROCESSING COMPLETED FOR L158
PROCESSING COMPLETED FOR L155
L159          32 DUP REM L156 L157 L154 L158 L155 (0 DUPLICATES REMOVED)
                 ANSWER '1' FROM FILE BIOTECHNO
                 ANSWERS '2-6' FROM FILE BIOTECHDS
                 ANSWERS '7-18' FROM FILE CAPLUS
                 ANSWERS '19-20' FROM FILE BIOSIS
                 ANSWERS '21-32' FROM FILE WPIDS

=> d ibib ab 1-32; fil hom

L159  ANSWER 1 OF 32  BIOTECHNO  COPYRIGHT 2003 Elsevier Science B.V.
ACCESSION NUMBER:         1998:29228483  BIOTECHNO
TITLE:                    Environmental Health Criteria 200: Copper
AUTHOR:                   Howe P.D.; Becking G.C.; Callan P.; Dameron C.;
                          Tomaska L.
CORPORATE SOURCE:         P.D. Howe, Institute of Terrestrial Ecology, Abbots
                          Ripton, Huntingdon, Cambs., United Kingdom.
SOURCE:                   Environmental Health Criteria, (1998), -/200 (I-11),
                          999 reference(s)
                          CODEN: EHCRDN  ISSN: 0250-863X
DOCUMENT TYPE:            Journal; General Review
COUNTRY:                  Switzerland
LANGUAGE:                 English
SUMMARY LANGUAGE:         English; French; Spanish
AB    1.1. Identity, physical and chemical properties. Copper is a
      reddish-brown, ductile and malleable metal. It belongs to group IB of the
      Periodic Table. In compounds found in the environment it usually has a
      valence of 2 but can exist in the metallic, +1 and +3 valence
      states. Copper is found naturally in a wide variety of mineral salts and
      organic compounds, and in the metallic form. The metal is
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sparingly soluble in water, salt or mildly acidic solutions, but can be dissolved in nitric and sulfuric acids as well as basic solutions of ammonium hydroxide or carbonate. Copper possesses high electrical and thermal conductivity and resists corrosion. 1.2. Analytical methods. The wide range of copper species, inorganic and organic, has led to the development of an **array** of sampling techniques, preparation and analytical methods to quantify the element in environmental and biological samples. Contamination of the samples with copper from air, dusts, vessels or reagents during sampling and preparation is a major source of analytical errors, and 'clean' techniques are essential. Colorimetric and gravimetric methods for the measurement of copper are simple to use and are inexpensive; however, their usefulness is limited to situations where extreme sensitivity is not essential. For measurement of low concentrations of copper in various matrices, atomic absorption spectrophotometric (AAS) methods are the most widely used. A dramatic increase in sensitivity is obtained by the utilization of graphite furnace atomic absorption spectrophotometry (GF-AAS) rather than flame AAS. Depending upon sample pretreatment, separation and concentration procedures, detection limits of about 1 .mu.g/litre in water by GF-AAS and 20 .mu.g/litre by AAS have been reported and levels of 0.05-0.2 .mu.g/g of tissue have been detected by GF-AAS. Greater sensitivities can be achieved through the use of emission techniques such as high temperature inductively coupled argon plasma techniques followed by atomic emission spectroscopy (ICP-AES) or a mass spectrometer (ICP-MS). Other more sensitive and specialized methodologies are available such as X-ray fluorescence, ion-selective electrodes and potentiometric methods, and anodic stripping and cathodic stripping voltametry. 1.3. Sources of human and environmental exposure. Natural sources of copper exposure include windblown dust, volcanoes, decaying vegetation, forest fires and sea spray. Anthropogenic emissions include smelters, iron foundries, power stations and combustion sources such as municipal incinerators. The major release of copper to land is from tailings and overburdens from copper mines and sewage sludge. Agricultural use of copper products accounts for 2% of copper released to soil. Copper ores are mined, smelted and refined to produce many industrial and commercial products. Copper is widely used in cooking utensils and water distribution systems, as well as fertilizers, bactericides, fungicides, algicides and antifouling paints. It is also used in animal feed additives and growth promoters, as well as for disease control in livestock and poultry. Copper is used in industry as an activator in froth flotation of sulfide ores, production of wood preservatives, electroplating, azo-dye manufacture, as a mordant for textile dyes, in petroleum refining and the manufacture of copper compounds. 1.4. Environmental transport, distribution and transformation. Copper is released to the atmosphere in association with particulate matter. It is removed by gravitational settling, dry deposition, washout by rain and rainout. Removal rate and distance travelled from the source depend on source characteristics, particle size and wind velocity. Copper is released to water as a result of natural weathering of soil and discharges from industries and sewage treatment plants. Copper compounds may also be intentionally applied to water to kill algae. Several processes influence the fate of copper in the aqueous environment. These include complex formation, sorption to hydrous metal oxides, clays and organic materials, and bioaccumulation. Information on the physicochemical forms of copper (speciation) is more informative than total copper concentrations. Much of the copper discharged to water is in particulate form and tends to settle out, **precipitate** out or be adsorbed by organic matter, hydrous iron, manganese oxides and clay in the sediment or water column. In the aquatic environment the concentration of copper and its bioavailability depend on factors such as water hardness and alkalinity, ionic strength, pH and redox potential, complexing ligands, suspended particulate matter and carbon, and the interaction between sediments and water. The largest release of copper is to land; the major sources of release are mining

operations, agriculture, solid waste and sludge from treatment works. Most copper deposited in soil is strongly adsorbed and remains in the upper few centimetres of soil. Copper adsorbs to organic matter, carbonate minerals, clay minerals, hydrous iron and manganese oxides. The greatest amount of leaching occurs from sandy acidic soils. In the terrestrial environment a number of important factors influence the fate of copper in soil. These include the nature of the soil itself, pH, presence of oxides, redox potential, charged surfaces, organic matter and cation exchange. Bioaccumulation of copper from the environment occurs if the copper is biologically available. Accumulation factors vary greatly between different organisms, but tend to be higher at lower exposure concentrations. Accumulation may lead to exceptionally high body burdens in certain animals (such as bivalves) and terrestrial plants (such as those growing on contaminated soils). However, many organisms are capable of regulating their body copper concentration.

L159 ANSWER 2 OF 32 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-12121 BIOTECHDS
TITLE: Detecting nucleic acid, useful for diagnosis of genetic, viral or bacterial disease, comprises hybridizing nanoparticles with attached oligonucleotides to nucleic acid and detecting change brought about by hybridization; DNA and RNA detection and purification using DNA probe, liposome and bioinformatic software for virus, bacterium and fungus disease diagnosis
AUTHOR: MIRKIN C A; LETSINGER R L; MUCIC R C; STORHOFF J J; ELGHANIAN R; TATON T A; GARIMELLA V; LI Z; PARK S
PATENT ASSIGNEE: NANOSPHERE INC
PATENT INFO: WO 2002018643 7 Mar 2002
APPLICATION INFO: WO 2000-US25237 11 Aug 2000
PRIORITY INFO: US 2001-820279 28 Mar 2001
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-258024 [30]
AB DERWENT ABSTRACT:
NOVELTY - Detecting a nucleic acid (NA) having at least 2 portions comprising: (a) providing nanoparticles (NP) with attached oligonucleotides (OGN), where OGN has a sequence complementary to the sequence of NA; (b) contacting NA and NP under conditions effective to allow hybridization of OGN with NA; and (c) observing a detectable change brought about by hybridization of OGN with NA, is new.

DETAILED DESCRIPTION - Detecting (M1) a nucleic acid (NA) having at least 2 portions comprising: (a) providing 2 types of nanoparticles (NP) with attached oligonucleotides (OGN), where OGN on type 1 has a sequence complementary to a first portion of the sequence of NA and OGN on type 2 has a sequence complementary to a second portion of the sequence of NA; (b) contacting NA and NP under conditions effective to allow hybridization of OGN with NA; and (c) observing a detectable change brought about by hybridization of OGN with NA, is new. INDEPENDENT CLAIMS are also included for the following: (1) a kit for carrying out M1; (2) an aggregate probe comprising at least 2 types of NP having OGN attached, bound to each other as a result of hybridization of OGN and OGN comprises sequence complementary to a portion of NA or a hydrophobic group attached to the NP free end; (3) a core probe comprising at least 2 types of NP having OGN attached, bound to each other as a result of hybridization of OGN; (4) a substrate having NP attached; (5) a **metallic** or semiconductor NP having OGN attached, where OGN are labeled with fluorescent molecules at NP free ends; (6) a satellite probe comprising a particle having OGN attached and probe OGN hybridized to OGN on NP; (7) a method (M2) of nanofabrication comprising: (a) providing a linking OGN having a selected sequence of 2 portions; (b) providing NP having OGN attached, where OGN comprises a sequence complementary to the linking OGN; and (c) contacting linking OGN and NP under hybridization conditions

so that a desired nanomaterial or nanostructure is formed where NP are held together by OGN connectors; (8) nanomaterials or nanostructures composed of NP having OGN attached, where NP are held together by OGN connectors; (9) an assembly of containers comprising containers holding NP with OGN attached; (10) a NP having a number of different OGN attached; (11) separating (M3) a selected NA having 2 portions; (12) binding (M4) OGN to charged NP to produce stable NP-OGN conjugates; (13) NP-OGN conjugates comprising OGN attached to NP at a surface density sufficient so that the conjugates are stable, where OGN has sequence complementary to a NA or another OGN; (14) detecting a NA using the NP-OGN conjugates; (15) a method of nanofabrication using the NP-OGN conjugates; (16) separating a selected NA using the NP-OGN conjugates; (17) NP-OGN conjugates which are NP having OGN attached, where OGN have a covalently bound cyclic disulfide functional group or polythiol functional group that can bind to NP; (18) OGN having a covalently bound cyclic disulfide functional group or polythiol functional group that can bind NP; and (19) detecting (M5) an analyte in a sample.

BIOTECHNOLOGY - Preferred Method: In M1 contacting conditions include freezing, thawing and heating. The detectable change, preferably a color change is observed with the naked eye on a solid surface. NP are made of gold or **silver**. OGN are labeled on their ends not attached to NP with molecules that produce a detectable change upon hybridization of NP with NA. NP are **metallic** or semiconductor NP and OGN are labeled with fluorescent molecules. NA comprises a third portion located between the first and second portions. OGN sequences do not include sequences complementary to the third portion. NA is further contacted with a filler OGN having a sequence complementary to the third portion under hybridization conditions. NA is viral DNA or RNA, bacteria DNA or fungal DNA. NA is a gene associated with a disease. NA is a synthetic DNA/RNA or a structurally modified natural or synthetic DNA/RNA. NA is form a biological source or a product of a polymerase chain reaction (PCR) amplification. The first type of NP are attached to a substrate. NA is double stranded and hybridization with OGN on NP results in the production of a triple stranded complex. The substrate has a number of types of NP attached to it in an **array** to allow for the detection of multiple portions of a single NA and/or the detection of multiple different NA. The substrate is a transparent or an opaque white substrate. Detectable change is the formation of dark areas on the substrate. The substrate is contacted with **silver** stain to produce the detectable change which is observed with an optical scanner or flatbed scanner. The scanner is linked to a computer loaded with software capable of calculating greyscale measurements and the measurements are calculated to provide a quantitative measure of the amount of nucleic acid detected. OGN attached to the substrate are located between 2 electrodes, NP are made of a material which is electrically conductive and the detectable change is a change in conductivity. The electrodes and NP are made of gold. The substrate is contacted with **silver** to produce the change in conductivity. Alternatively M1 comprises contacting NA bound to substrate with liposomes having OGN bound or providing an aggregate probe comprising at least 2 types of NP with OGN attached. NA is contacted simultaneously with the aggregate probe and the substrate. M1 comprises contacting NA with at least 2 types of particles having OGN attached, where OGN on type 1 is labeled with an energy donor and OGN on type 2 is labeled with an energy acceptor, which are fluorescent molecules. Alternatively M1 comprises providing a type of microsphere having OGN attached complementary to a first portion of NA and labeled with a fluorescent molecule, providing a type of NP having OGN attached complementary to a second portion of NA, contacting NA with NP and microspheres and observing a change in fluorescence. The microspheres are latex microspheres. Changes in fluorescence and/or color are observed. M1 further comprises placing a portion of the mixture of NP, microspheres and NA in an observation area located on a microporous material, treating

the material so as to remove any unbound NP from the area and observing changes in fluorescence and/or color. Alternatively M1 comprises providing a type of particle having OGN attached, providing a type of probe OGN labeled with a reporter molecule at one end, contacting the particle and the probe OGN under hybridization conditions to produce a satellite probe, contacting the satellite probe with NA under hybridization conditions, removing the particles and detecting the reporter molecule. The reporter molecule is a fluorescent molecule, a dye or redox-active molecule. M1 comprises using OGN having biotin bound to it and strept(avidin). NA bound with OGN are contacted with strept(avidin) and the detectable change resulting from specific binding of biotin bound to complex with strept(avidin) are observed. In M2 NP are **metallic** NP (preferably gold) and semiconductor NP (preferably CdSe/ZnS core/shell). M3 comprises providing NP having OGN attached with complementary sequences to selected NA, contacting the NA and NP under hybridization conditions so that the NP hybridized to NA aggregate and **precipitate.** M4 comprises providing OGN having covalently bound moiety containing a functional group which can bind to the NP, contacting the OGN and NP in water, adding a salt to the water to form a salt solution, where the ionic strength of the solution is sufficient to overcome the electrostatic repulsion/attraction of the OGN for the NP/OGN and contacting the OGN and NP in the salt solution to allow sufficient additional OGN to bind to the NP to produce the stable NP-OGN conjugates. The moiety comprising a functional group which can bind to NP is an alkanethiol. The salt added singly or gradually to the water is sodium chloride (preferred), magnesium chloride, potassium chloride, ammonium chloride, sodium, acetate, ammonium acetate or their mixtures in a phosphate buffer. NP-OGN conjugates are produced which have OGN present at a surface density of 10, preferably 15-40 picomoles/cm2. Alternatively M4 comprises providing OGN having a moiety bound containing a functional group which can bind NP, where OGN contains a type of recognition OGN and a diluent OGN. Each of the recognition OGNs comprise a spacer portion and a recognition portion, where the spacer portion comprises a functional group which can bind to NP. The spacer portion comprises at least 10-30 nucleotides. The bases of the nucleotides are all adenines, thymine, cytosines, uracils or guanines. The diluent OGNs contain about the same number of nucleotides as are contained in the spacer portions of the recognition OGN. The sequence of the diluent OGN is the same as the sequence of the spacer portions of the recognition OGN. M5 further comprises: (a) providing a NP-OGN conjugate where OGN are attached to second OGN having a specific binding complement of the analyte bound to it; (b) contacting the analyte with the conjugate under binding conditions; and (c) observing a detectable change brought about by the specific binding interaction of the analyte and the specific binding complement of the analyte.

USE - The methods are useful for detecting a nucleic acid, separating a selected nucleic acid from others and methods of nanofabrication (all claimed). Detecting analytes such as nucleic acids and proteins are useful for the diagnosis of genetic, bacterial and viral diseases.

ADVANTAGE - The OGN-NP conjugates that use cyclic disulfide linkers improve the sensitivity of diagnostic assays. In particular assays using OGN-NP conjugates prepared using linkers comprising a steroid residue attached to a cyclic disulfide have been found to be approximately 10 times more sensitive than assays employing conjugates prepared using alkanethiols or acyclic disulfides as the linker. The OGN-NP conjugates are stable allowing them to be used directly in PCR solutions. Therefore conjugates added as probes to a DNA target to be PCR amplified can be carried through the 30 or 40 heating cooling cycles of the PCR and are still able to detect the amplicons without opening the tubes. Opening the tubes for addition of probes after PCR can cause serious problems through contamination of the equipment to be used for subsequent tests.

EXAMPLE - **Gold colloids** (13 nm diameter) were

prepared by reduction of HAuCl4 with citrate as described in Frens, Nature Phys. Sci., 241, 20 (1973) and Grabar, Anal. Chem., 67, 735 (1995). Oligonucleotides were synthesized on a 1 micromole scale using a Milligene Expedite DNA synthesizer in single column mode using phophoramidite chemistry. An aqueous solution of 17 nM (150 micro liter) Au colloids was mixed with 3.75 microM (46 micro liter) 3'-thiol-TTTGCTGA and allowed to stand for 24 hours at room temperature in 1 ml Eppendorf capped vials. A second solution of colloids was reacted with 3.75 microM (46 micro liter) 3'-thiol-TACCGTTG. Equal amounts of each of the nanoparticle solutions were combined shortly before use.(329 pages)

L159 ANSWER 3 OF 32 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-08428 BIOTECHDS
TITLE: Determining targets by interaction with probe **array**, useful e.g. for diagnosis, based on detecting formation of **precipitate** at specific probe sites; DNA probe immobilization on epoxy-treated glass surface support matrix for DNA **array** construction
AUTHOR: BICKEL R; EHRICHT R; ELLINGER T; ERMANTRAUT E; KAISER T; SCHULZ T; WAGNER G
PATENT ASSIGNEE: CLONDIAG CHIP TECHNOLOGIES GMBH
PATENT INFO: WO 2002002810 10 Jan 2002
APPLICATION INFO: WO 2000-EP7575 1 Jul 2000
PRIORITY INFO: DE 2000-1033334 1 Jul 2000
DOCUMENT TYPE: Patent
LANGUAGE: German
OTHER SOURCE: WPI: 2002-154760 [20]
AB DERWENT ABSTRACT:
NOVELTY - Qualitative and/or quantitative detection of targets (I) in a sample by molecular interaction between (I) and probes (II) in an **array**.

DETAILED DESCRIPTION - Qualitative and/or quantitative detection of targets (I) in a sample by molecular interaction between (I) and probes (II) in an **array**. The sample is applied to an **array** of (II), immobilized at defined positions, then a reaction performed that produces a **precipitate** at **array** elements where interaction has occurred. The progression, with time, of **precipitate** formation is detected as signal intensities and a virtual signal intensity (VSI) is determined, for an **array** element, from a curve function that describes **precipitate** formation as a function of time. An INDEPENDENT CLAIM is also included for an apparatus for the process.

USE - The method is used to detect interactions between nucleic acids, antigens and antibodies or receptor and ligands. Typical of many possible applications are medical diagnosis; forensic science; bacterial screening; tissue typing for transplantation; monitoring gene expression; and genotyping (for development of patient-specific drugs).

ADVANTAGE - The method provides very precise, simple and inexpensive detection of interactions, with high dynamic resolution (i.e. weak interactions can be detected). Only relatively inexpensive detectors are required and the apparatus used can be provided as a stand-alone, hand-held device for use on site by an unskilled person.

EXAMPLE - The amino-modified oligonucleotide (A) was immobilized as an **array** on an epoxy-treated glass surface 5'-NH2-CCTCTGCAGACTACTATTAC (A) then tested for hybridization with the biotinylated 20-mer complementary sequence (B), at various concentrations 5'-biotin-GTAATAGTAGTCTGCAGAGG (B) The **array** was treated with a streptavidin-gold conjugate, washed, then treated with an alkaline solution containing **silver** nitrate and formaldehyde, and incubated for 15 min at 22 degrees Centigrade. Images were taken with a camera and a graph of gray scale against time plotted. (B) could be detected at below 10 pM.(92 pages)

L159 ANSWER 4 OF 32 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-13262 BIOTECHDS
TITLE: New charge-switch nucleotide phosphate probe useful for sequencing nucleic acid, comprises intact nucleotide phosphate probe having terminal phosphate with fluorophore moiety attached to it;
DNA probe, DNA primer, enzyme immobilization and high throughput screening for DNA sequencing
AUTHOR: WILLIAMS J G K; BASHFORD G R; CHEN J; DRANEY D; NARAYANAN N; REYNOLDS B L; SHEAFF P
PATENT ASSIGNEE: LI-COR INC
PATENT INFO: WO 2001094609 13 Dec 2001
APPLICATION INFO: WO 2000-US18699 7 Jun 2000
PRIORITY INFO: US 2001-876375 6 Jun 2001
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-404363 [43]

AB DERWENT ABSTRACT:

NOVELTY - A charge-switch nucleotide phosphate (NP) probe (I) comprising an intact NP probe having a terminal phosphate with a fluorophore moiety attached to it, where the intact probe has a first molecular charge (C1) associated with it, where on cleavage of terminal phosphate as phosphate fluorophore moiety, the moiety carries a second molecular charge (C2), where the difference between C1 and C2 is at least 0.5, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following: (1) separating (M1) a labeled NP having a detectable moiety from a released charged detectable moiety in a sample stream, by: (a) immobilizing a complex comprising a nucleic acid polymerase or a target nucleic acid onto a solid support in a single molecule configuration; (b) contacting the complex with a sample stream comprising a target nucleic acid when the polymerase is immobilized or a polymerase when the target nucleic acid is immobilized, a primer nucleic acid which complements a region of the target nucleic acid, and a labeled NP having a detectable moiety, where the detectable moiety is released as a charged detectable moiety when NP is incorporated into the primer nucleic acid; and (c) applying an energy field to the sample stream; (2) an analytical method (M2) for separating an intact NP probe from a phosphate detectable moiety, by: (a) providing a sample comprising an intact NP probe with a detectable moiety attached to it, where on enzymatic cleavage of the intact NP probe which produces a phosphate detectable moiety, the phosphate detectable moiety carries a molecular charge which is different than the molecular charge of the intact NP probe; and (b) applying an energy field to the sample; (3) sequencing (M3) a target nucleic acid with a polymerase, involves M1, where the solid support is attached to a flow cell having an inlet port and an outlet port, followed by the step of detecting the charged detectable moiety; (4) separating (M4) an intact NP probe from a phosphate detectable moiety, by: (a) providing a sample comprising an intact NP probe with a detectable moiety attached to it, where upon an enzymatic cleavage of the intact NP probe, which produces the phosphate detectable moiety, the phosphate detectable moiety carries a molecular charge which is different than the molecular charge of the intact NP probe; and (b) applying an electric field to the sample; (5) identifying (M5) an intact charge-switch NP probe by contacting a sample comprising the probe with an enzyme to produce a phosphate detectable moiety, and applying an electric field to the sample, where the phosphate detectable moiety migrates to an electrode different than the probe; and (6) an intact charge-switch NP probe (II), where upon enzymatic cleavage of (II) to produce a phosphate detectable moiety, the phosphate detectable moiety migrates to an electrode, and (II) migrates to the other electrode.

WIDER DISCLOSURE - Also disclosed is an integrated system for high-throughput screening of DNA sequence and pyrophosphate detection.

BIOTECHNOLOGY - Preferred Probe: In (I), either the intact NP probe

has a positive molecular charge, or upon cleavage of the terminal phosphate fluorophore moiety, the moiety carries a molecular positive charge relative to the intact NP probe. (I) is a nucleotide triphosphate (NTP) (selected from adenosine triphosphate, cytosine triphosphate, guanosine triphosphate and uridine triphosphate), preferably a deoxynucleotide triphosphate (dNTP) (selected from deoxyadenosine triphosphate, deoxycytosine triphosphate, deoxyguanosine triphosphate deoxythymidine triphosphate and deoxyuridine triphosphate) having a positive charge, where the terminal phosphate is a pyrophosphate with the fluorophore moiety attached to it. Preferred Method: The labeled NP is a labeled NTP having a detectable moiety is a NTP having a gamma-phosphate with a detectable moiety attached to it. The charged detectable moiety when released comprises a pyrophosphate with a fluorophore moiety attached to it. The labeled NTP is incorporated into the nucleic acid primer hybridized to the target nucleic acid using the polymerase, thus releasing the gamma-phosphate with the detectable moiety attached to it. The target nucleic acid comprises a self-complementary region forming the primer. The charge of the detectable moiety after release is different than NP having a detectable moiety attached to it. The charge of the detectable moiety is more positive than the unincorporated labeled NP or is opposite in sign compared to the unincorporated fluorescently labeled NP. M1 further comprises measuring the detectable moiety with a measuring device selected from a charge coupled device (**CCD**) **camera**, a photodiode, a video **chip**, amp meter, voltage meter, a blockade current, and a dye-impregnated polymeric coating on optical fiber sensor, preferably **CCD camera** or photodiode. The energy field is an electric field, preferably a first electric field applied in the transverse direction and a second electric field applied in the axial direction. In M2, the NP probe with a detectable moiety is labeled NTP. In M4, the intact NP probe is (I) having a detectable moiety on a terminal phosphate. In M5, the enzyme is DNA polymerase, DNA dependent RNA polymerase, reverse transcriptase, phosphodiesterase or phosphatase.

USE - (I) is useful for sequencing a nucleic acid, for separating a labeled NP having a detectable moiety from a released charged detectable moiety in a sample stream, and for separating an intact NP probe from a phosphate detectable moiety (claimed).

ADVANTAGE - (I) sequences nucleic acid rapidly and without the need for amplification or cloning. (I) allows separation of cleaved terminal phosphate from the intact NP probe reagents. By electrically sorting charged molecules in M2, the cleaved product molecules are detected in isolation without interference from unincorporated NPs and without eliminating the polymerase-DNA complex.

EXAMPLE - Synthesis of a charge-switch nucleotide was as follows. 11.2 g of t-BOC anhydride was dissolved in 100 mL of reagent grade methanol. 10 Ml of N,N dimethylpropyl amine was added slowly to the reaction mixture, and stirred. The reaction was deemed complete by thin layer chromatography (TLC). The intermediate compound 1 obtained was then purified by column chromatography. 2.16 g of the compound I was dissolved in 10 mL dry reagent grade butyronitrile. 1.51 g of 1,4-diiodobutane was added and the mixture was refluxed, and the reaction was checked by TLC and determined to be complete. The reaction mixture was **precipitated** and collected. The resultant viscous yellow residue was dissolved in methanol and the solvent was removed in vacuo. The obtained compound 2 was used without purification to form intermediate compound 3. Compound 3 was dried, dissolved in 20 mL of 5N HCl and stirred. Reaction completion was checked by TLC. The acid solution was concentrated and product of interest was **precipitated**. The solid was collected, dried and used without further purification or determination of yield. 1.1 mg of deoxythymidine triphosphate (dTTP) was dissolved in 100 micro liter 0.1 M MES pH 5.7. In a separate vial, 19.7 mg of EDC (undefined) was dissolved in 100 micro liter of 0:1 M MES pH 5.7. These two solutions are combined and incubated. 11.6 mg of compound

3 was dissolved in 400 micro liter of MES (undefined) buffer, and this solution was added to the activated nucleotide and the reaction was allowed to stand at room temperature for 110 minutes. The product of interest was isolated by reverse phase high pressure liquid chromatography (HPLC). Solvent was removed from purified compound 4 in vacuo. Compound 4 was dissolved in 100 micro liter of 50 mM carbonate buffer at pH 8.3. 9.4 micro liter of 22 mM TAMRA-X-SE 6' was added and the reaction mixture was allowed to stand at room temperature for 18 hours in the dark. Reaction was determined complete after hydrolysis of all active dye ester. T-BQS-TAMRA X was isolated by reverse phase HPLC. Solvent was removed from product in vacuo in the dark. Yield was found to be 30%. (81 pages)

L159 ANSWER 5 OF 32 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-08270 BIOTECHDS
TITLE: Detecting genetic and phenotypic markers (e.g. centromeres, loci, chromosome bands, chromosomes and fragments, RNA, proteins and antibodies) using spectral imaging and brightfield microscopy to detect the presence of chromogenic dyes;
DNA probe for gene marker detection
AUTHOR: RIED T; MACVILLE M V E; HOPMAN A H N
PATENT ASSIGNEE: US DEPT HEALTH and HUMAN SERVICES
PATENT INFO: US 2001053958 20 Dec 2001
APPLICATION INFO: US 1997-895031 8 Aug 1997
PRIORITY INFO: US 2001-895031 29 Jun 2001
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-097131 [13]
AB DERWENT ABSTRACT:
NOVELTY - Improved methods of detecting genetic and phenotypic markers in biological samples using spectral imaging and brightfield microscopy to detect the presence of chromogenic dyes, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: (1) an improved method (I) for detecting a genetic marker in a biological sample, comprising: (a) contacting the biological sample with a nucleic acid probe linked to a detectable group (so that the detectable group can be detected by the presence of a chromogenic dye associated with the detectable group); (b) obtaining a spectral image of the biological sample using brightfield microscopy; and (c) detecting the presence of the chromogenic dye, therefore detecting the genetic marker in the biological sample; and (2) an improved method (II) for detecting a phenotypic marker in a biological sample comprising: (a) contacting the biological sample with a compound comprising a detectable group (so that the compound associates with the phenotypic marker and the detectable group can be detected by the presence of a chromogenic dye associated with the detectable group); (b) obtaining a spectral image of the biological sample using brightfield microscopy; and (c) detecting the presence of the chromogenic dye, therefore detecting the phenotypic marker in the biological sample.

BIOTECHNOLOGY - Preferred Method: In (I) the biological sample is contacted with more than 1 nucleic acid probe. The sample is attached to a substrate. Step (a) further comprises contacting the biological sample with a cytological stain and step (c) further comprises distinguishing the cytological stain from the detectable group. The genetic marker is a centromere, a telomere, a general genetic loci, a specific genetic loci, a chromosome band, a chromosome-specific loci, a chromosome fragment, and/or a whole chromosome. The detectable group comprises a hapten. In method (II) the biological sample is contacted with more than one compound. The sample is attached to a substrate. Step (a) further comprises contacting the biological sample with a cytological stain and step (c) further comprises distinguishing the cytological stain from the detectable group. The phenotypic marker is an RNA, a protein, and/or an

antibody. The detectable group comprises a hapten.

USE - The methods are used to detect genetic markers (such a centromere, a telomere, a general genetic loci, a specific genetic loci, a chromosome band, a chromosome-specific loci, a chromosome fragment, and/or a whole chromosome) and phenotypic markers (such as RNA, proteins and antibodies) (claimed).

ADVANTAGE - The method overcomes previous shortcomings in the art by providing methods for analyzing both genetic and phenotypic markers in a single biological sample through the use of bright field spectral imaging of chromogenic dyes. Such analyses are valuable in a variety of clinical applications, such as, for example, the diagnosis and characterization of cancer and the analysis of chromosomal aberrations in pre- and post-natal diagnostics. An important aspect of the method that overcomes a severe limitation in the art is that by using the method, multiple probes, both to genetic and/or phenotypic markers, and therefore multiple chromogenic dyes can be used in the same sample and the individual dyes can be distinguished using spectral imaging, even where the sample has been previously stained with a cytological- stain which otherwise would obscure the signal from the genetic or phenotypic probes. Using these methods, a pathologist for example, can stain a tissue sample to observe a general morphological aspect of cells in the sample, and a geneticist can subsequently use that stained sample to diagnose cells in the sample for the presence of a genetic or phenotypic marker, such as a chromosomal aberration associated with cervical cancer, with much more clarity, accuracy, ease, and efficiency than using previously available methods.

EXAMPLE - T24 human bladder cancer cells (ATCC HTB 4) were grown on microscope slides under standard cell culture conditions to 30% confluency. Cells were fixed and pre-treated for in situ hybridization as described (Speel et al., 1994). Human spermatozoid cells were obtained from a healthy male, fixed and smeared on a microscopic slide for pre-treatment for in situ hybridization (Martini, E., et al., 1995. Application of different in situ hybridization detection methods for human sperm analysis, Hum. Reprod. 10:855-861). T24 bladder cells were hybridized with centromeric alpha-satellite probes for chromosome 1, 7 and/or 15. The sperm cells were hybridized with probes for X- and Y-chromosome specific loci. For single labeling, probes were labeled by nick-translation with biotin and detected with peroxidase (PO) conjugated to avidin or alkaline phosphatase (AP) conjugated to avidin (Vector), depending on the enzyme substrate to be used. Diaminobenzidine (DAB), tetra-methylbenzidine (TMB) and amino-ethyl-carbazole (AEC) were used as substrates for PO and New Fuchsin (NF), Fast Red (FR) and NBT/BCIP/INT (INT) were used as substrates for AP. The enzyme reaction produced a **precipitate**, i.e. a chromogenic dye, in situ that was visible in a bright field light microscope. For double labeling, one probe was labeled with biotin and the other with digoxigenin. Digoxigenin label was detected with polyclonal anti-digoxigenin antibody conjugated to either PO or AP. The third label was introduced by using fluorescein isothiocyanate (FITC) as a hapten and detected with mouse anti-FITC antibody and anti-mouse-PO or anti-mouse-AP antibody. In double and triple labeling, interspecies cross-reactivity was blocked and enzyme reactions producing the reporter signals were developed sequentially (Speel et al., 1994). Nuclei of T24 bladder cells were stained either lightly or heavily with hematoxylin and sperm cells were cytologically stained with DIFF QUIK. Simultaneous staining with cytochemical stains such as, for example, hematoxylin (blue/purple), methyl green, eosin (pink) or DIF Quick (red) provided histological information and contributed to multiparameter bright-field microscopic analysis. Specimens were covered with mounting medium under a coverslip. A Leica DM microscope was equipped with a SD200 SpectraCube (RTM) for acquisition of spectral images. A halogen transmission light operating at 12 V for daylight color temperature was used in the visible range (400-700 nm) by placing a WG360 UV cut-off filter and a BG38 infrared cut-off filter in the illumination pathway. Neutral density filters were used to optimize

the light level for spectral imaging. Spectral images were acquired with ASI acquisition software running on a Dell Pentium (RTM) PC. Typically, a spectral image was built of 200 frames of 300 ms with an interferometer step size angle of 15 degrees. Spectral analysis was performed on SpCube (RTM) 1.5 analysis software (ASI). Spectral imaging using the SD200 SpectraCube (RTM) mounted on a transmission light microscope allowed for the measurement of the absorption spectra of chromogenic dyes while retaining the spatial information of the microscopic image. A spectral image was acquired and for every pixel in the **CCD** image the absorption spectrum can be retrieved. The optical density image displayed the constituents of the specimen that absorbed the light of certain wavelengths. Regions that do not absorb light appear black. For every pixel, an absorption curve can be produced, showing the absorption intensities per wavelength. Pixel by pixel spectral data can be utilized for subsequent mathematical operations. For example, a spectrum-based classification would result instantly in the pseudo-colorization of pixels with similar spectra. Defining spectral signatures for specific regions within a specimen provides flexibility for image analysis. To demonstrate the improvement in clinical diagnosis provided by the methods of the present invention as compared to techniques available at the time the present invention was made, a comparison was made between the bright field spectral imaging technology of the present invention and state-of-the-art quantitative microscopy software. For the latter procedure, a 3-**chip** color charged couple device (**CCD**) video **camera** and Leica QWin software were used for image capture and quantitative hue, as well as saturation and intensity measurements. The hue value was a trivial but fixed number for every color, whereas the saturation and intensity values vary dependent on the quality of the detection. Color discrimination in a 3-color video image therefore should be based on hue values. Hue values are displayed in a histogram, showing the number of pixels in an image for every hue value. Pixels with hue values which match exactly can be selected and displayed with a single pseudo-color. Hue-classification of all pixels in the image simultaneously is not possible in a single operation. For comparison of the spectral imaging method of the present invention with quantitative microscopy, the same microscope was equipped with a 3-**chip** color charged couple device **camera** controlled by Qwin (RTM) software, for image acquisition and quantitative analysis, operating on a Leica Q550 Pentium (RTM) PC. Video images were acquired with a halogen transmission light at 12 V (or 10.5V with a CB12 blue filter to correct for daylight color temperature) and neutral density filters for optimal video exposure times. The in situ hybridization signals (spots) for centromere sequences in T24 bladder cancer cells were analyzed after single-color labeling, double-color labeling and triple-color labeling, with and without cytological counterstaining. Single labeling experiments without counterstain showed the spectra of the pure dyes. The absorption spectra of the PO substrates DAB, TMB, and AEC and of the AP substrates Fast Red, New Fuchsin and INT were measured, showing specific spectral characteristics for each dye. Spectral imaging of a triple-color in situ hybridization for chromosome centromeres using TMB (green), New Fuchsin (red) and DAB (brown) as reporter dyes resulted in good spectral separation of the individual dyes. Even the colors of small spots that could not be easily discerned by eye were readily identified. The absorption peaks were wide apart and the shapes of the curves deviated clearly to allow for a spectrum-based color classification of all spots. In comparison, video images were acquired using a 3-**chip** color **CCD camera**. Based on color hue values, the presence of the three colors could be discriminated in a histogram. Hue measurement results, however, could not be shown within the cellular context after a single operation. When cytological stains such as hematoxylin (blue purple) and DIF Quick (red) are used, they were present throughout the cell or cell compartment and are therefore overlaying the hybridization spots. The absorption spectrum of two co-localizing dyes seems to be

additive, meaning that the spectrum of the overlap was the sum of the two pure spectra. The spectrum that was measured at the hybridization spots was, therefore, mixed with the spectrum of the cytological stain. The use of cytological stains, however, did not compromise the separation of the absorption spectra of the reporter dyes. In single labeling experiments using New Fuchsin and heavy nuclear staining with hematoxylin, the absorption spectrum of New Fuchsin had shifted but this did not create a problem for the classification of the hybridization signals. In a double labeling experiment on sperm cells, using X and Y chromosome-specific probes reported with, respectively, DAB and TMB, and cytologically stained with DIF Quick, clear spectral signatures of all three dyes could be defined. Spectrum based classification including all three dyes showed the hybridization spots of X and Y in pseudo-colors which would have been difficult from microscopic evaluation alone. The SpCube (RTM) analysis software provided for mathematical operations such as spectrum subtraction and division. By selecting the average spectrum of DIF Quick, a subtraction operation was executed, eliminating the contribution of the cytological stain from the spectral image. A similar effect can be achieved by division. The classification image showed just the hybridization spots. In contrast, with the quantitative microscopy software, hue measurements of single and double labeling experiments with counterstaining were not consistently successful. Due to lower color resolution, dyes of similar hue could not be discriminated in the hue-histogram. Under influence of cytological stains, the hue values of the hybridization spots shifted towards the hue of the stain, which led to drowning of the spot in cases of intense cytological staining or low hybridization signals. This phenomenon could not be prevented because mathematical subtraction/division operations could not be executed on these video images. This data demonstrates that the bright field spectral imaging method of the present invention provides for analysis of absorption spectra with high precision while maintaining spatial information. The use of cytological stains doesn't hamper spectral analysis and thus greatly facilitates microscopic evaluation. With quantitative microscopy, color discrimination based on hue value using QWin software is possible by manually selecting spots. However, cytological staining readily obscures color discrimination. Using QWin software, the hue measurement results could not be displayed together with spatial information in a single operation. Therefore, the data presented demonstrates that the spectral imaging methods of the present invention provides higher color resolution than 3-color video imaging, enabling the color discrimination necessary for reliable and user-friendly multi-parameter analysis of multi-color specimens.(1 pages)

L159 ANSWER 6 OF 32 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 1998-04524 BIOTECHDS
TITLE: Production of recombinant water-soluble collagen polypeptide; biopolymer production in recombinant Saccharomyces cerevisiae
AUTHOR: Weber S C; Herz A H
PATENT ASSIGNEE: Eastman-Kodak
LOCATION: Rochester, NY, USA.
PATENT INFO: US 5710252 20 Jan 1998
APPLICATION INFO: US 1995-383748 3 Feb 1995
PRIORITY INFO: US 1995-383748 3 Feb 1995
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 1998-109870 [10]
AB A new method for the production of recombinant water-soluble collagen protein (I) (protein sequence specified) involves culturing yeast cells containing a recombinant gene encoding (I), centrifugation or diafiltration of the fermentation broth, and isolating (I) from the supernatant by isoelectric **precipitation** at a pH within 1 unit of the isoelectric point of (I), followed by centrifugation. The pellet

is resuspended in a buffer, which is subjected to ionexchange chromatography, and an elution fraction is subjected to hydrophobic interaction chromatography or a second ionexchange chromatography, to obtain (I). The yeast is preferably Saccharomyces sp., especially Saccharomyces cerevisiae. The protein is useful as a peptizing agent in photographic **silver** halide emulsions, and can also be used in biosensors, as material for plastic surgery, in linear electron accelerating conducting wires in **biochips**, in dye-organizing core structures for nonlinear optic elements, for uranium metal recovery and as a food-additive. (35pp)

L159 ANSWER 7 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:185399 CAPLUS
DOCUMENT NUMBER: 136:229029
TITLE: Method for **precipitating** mono and multiple layers of organophosphoric and organophosphonic acids and the salts thereof in addition to use thereof
INVENTOR(S): Hofer, Rolf; Pawlak, Michael; Textor, Marcus; Schuermann-Mader, Eveline; Ehrat, Markus; Tosatti, Samuele
PATENT ASSIGNEE(S): Zeptosens A.-G., Switz.
SOURCE: PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020873	A2	20020314	WO 2001-EP10077	20010831
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001089859	A5	20020322	AU 2001-89859	20010831

PRIORITY APPLN. INFO.: CH 2000-1732 A 20000905
WO 2001-EP10077 W 20010831

OTHER SOURCE(S): MARPAT 136:229029

AB The invention relates to a method for pptg. mono or multiple layers of organophosphosphoric acids of general formula (I(A)) Y-B-OPO3 H2 (IA) or organophosphonic acids of general formula (I(B)) Y-B-PO3 H2 (IB) and the salts thereof, wherein B is an alkyl, alkenyl, alkynyl, aryl, aralkyl, hetaryl or hetaryl alkyl radical and Y is hydrogen or a functional group from the hydroxy, carboxy, amino, optionally low-alkyl- substituted mono or dialkylamino series, thiol, or a neg. acid group from the ester, phosphate, phosphonate, sulfate, sulfonate, maleimide, succinimidyl, epoxy, acrylate series. A biol., biochem. or synthetic indicator element can be coupled to B or Y as addn. or substitution reaction, whereby compds. can also be added imparting on the substrate surface a resistance against protein absorption and/or cell adhesion and in the B chain can be, optionally, composed of one or more ethylene oxide groups rather than one or more CH2 groups. According to the invention, said pptn. occurs on the surfaces of the substrates of pure or mixed oxides, nitrides or carbides of metals and semi-conductors. The invention is characterized in that the water-sol. salts composed of formula (IA) or (IB) are used to treat said surfaces, esp. the surfaces of sensor platforms, implants and medical accessory devices. The invention also relates to the use thereof as part

of coated sensor platforms, implants and medical accessory devices in addn. to novel organophosphosphoric acids and organophosphonic acids themselves. The optionally substituted compds. of general formula (IA) and (IB), wherein the groups B and Y have the above mentioned designations i.e. optionally substituted alkyl, alkenyl, alkynyl, aryl, aralkyl, hetaryl or hetaryl, are equally called organophosphoric acids or phosphonic acids.

L159 ANSWER 8 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:31683 CAPLUS
DOCUMENT NUMBER: 136:97256
TITLE: Method for the detection of interactions on probe **arrays** by the formation of insoluble products
INVENTOR(S): Bickel, Ralf; Ehricht, Ralf; Ellinger, Thomas; Ermantraut, Eugen; Kaiser, Thomas; Schulz, Torsten; Wagner, Gerd
PATENT ASSIGNEE(S): Clondiag Chip Technologies Gmbh, Germany
SOURCE: PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002810	A2	20020110	WO 2001-EP7575	20010702
WO 2002002810	A3	20020919		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2000-10033334 A 20000701

AB The invention relates to a method for qual. and/or quant. detecting certain mol. targets using probe arrays. The detection method comprises a reaction which delivers a product with a particular soly. product, this soly. product causing the pptn. or the formation of a ppt. of the product on an array element of the probe array on which an interaction has taken place between the probe and the target. Thus amino-modified 20-base oligonucleotides were covalently immobilized onto an epoxylated glass chip; the probes were hybridized with biotinylated complementary sequences in serial diln.; for detection streptavidin-gold conjugates were used.

L159 ANSWER 9 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:10789 CAPLUS
DOCUMENT NUMBER: 136:66616
TITLE: Electrochemical immunoassays using colloidal metal markers
INVENTOR(S): Limoges, Benoit; Authier, Laurent; Dequaire, Murielle
PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique (CNRS), Fr.
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002001178	A2	20020103	WO 2001-FR2000	20010625
WO 2002001178	A3	20030213		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2810739	A1	20011228	FR 2000-8145	20000626
AU 2001069256	A5	20020108	AU 2001-69256	20010625

PRIORITY APPLN. INFO.: FR 2000-8145 A 20000626
WO 2001-FR2000 W 20010625

AB The invention concerns a method for detecting or quantifying a biol. substance coupled with a colloidal metal particle by electrochem. detection, characterized in that it comprises a step which consists in dissolving by chem. treatment of said colloidal metal particle, prior to detection.

L159 ANSWER 10 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:961419 CAPLUS
DOCUMENT NUMBER: 138:12472
TITLE: Method and device for digital imaging analysis of cells using the same support slide for consecutive stainings
INVENTOR(S): Stockhausen, Jens
PATENT ASSIGNEE(S): Boecking, Alfred, Germany; Meyer-Ebrecht, Dietrich
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10128552	A1	20021219	DE 2001-10128552	20010613

PRIORITY APPLN. INFO.: DE 2001-10128552 20010613

AB The invention concerns a method and device for using the same support slide for the consecutive staining of cells during digital image anal. Cells are first stained with May-Gruenwald-Giemsa dye or Papanicolaou dye, followed by Feulgen-staining and silver-staining. The invention also contains a kit for staining.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L159 ANSWER 11 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:904300 CAPLUS
DOCUMENT NUMBER: 137:365933
TITLE: Carriers for chemical, biochemical and biological substances that are readable with compact disc players
PATENT ASSIGNEE(S): Lifebits Ag, Germany
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10127221	A1	20021128	DE 2001-10127221	20010523

PRIORITY APPLN. INFO.: DE 2001-10127221 20010523

AB The invention concerns carriers for chem. and biol. substances that (a) that carry arrays of distinct substances; (b) are compatible with CD, DVD players and bar-code readers; (c) contain defined substances according to the method of application; (d) contain interruptions between the applied arrays of substances; (e) contain ref. substances. The carriers are used in detn. processes that involve the polymn. of substances, enzymic catalyzed pptn. or reaction of a substrate, and silver formation.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L159 ANSWER 12 OF 32 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:693626 CAPLUS
DOCUMENT NUMBER: 135:235566
TITLE: Improved imaging SPR apparatus
INVENTOR(S): Johansen, Knut
PATENT ASSIGNEE(S): Institutet Polymerutveckling AB, Swed.
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001069209	A1	20010920	WO 2001-SE530	20010314
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1287336	A1	20030305	EP 2001-915983	20010314
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003048452	A1	20030313	US 2002-220304	20020913

PRIORITY APPLN. INFO.: US 2000-189084P P 20000314
WO 2001-SE530 W 20010314

AB A two-dimensional imaging surface plasmon resonance (SPR) app. for optical surface anal. of a sample area on a sensor surface is disclosed. The app. comprises a sensor surface layer of a conductive material that can support a surface plasmon, such as a free electron metal, e.g. gold, silver or aluminum, a source of electromagnetic beams of two or more wavelengths that illuminate a two-dimensional surface area from either the front or the backside of the sensor surface layer, and a detector for simultaneous, or pseudo simultaneous, detection of two or more wavelengths of reflected intensities from the two-dimensional surface area, providing two or more two-dimensional images of the surface area, the two-dimensional images being a function of the effective refractive index at each point on the surface area. The two-dimensional images put together result in a color image. The app. is suitable for use in biol., biochem., chem. and phys. testing.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L159 ANSWER 13 OF 32 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:117094 CAPLUS
DOCUMENT NUMBER: 134:187604
TITLE: Device for locating and removing foreign objects
INVENTOR(S): Kinoshita, Makoto
PATENT ASSIGNEE(S): Ricoh Microelectronics Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001041904	A2	20010216	JP 1999-219168	19990802

PRIORITY APPLN. INFO.: JP 1999-219168 19990802

AB The title device is suited for locating and removing foreign objects of elec. conductive, such as powders from Ag paste, on a transparent electrode of a touch panel. The device comprises a CCD camera and a laser device disposed on a X-Y stage driven by a linear motor. The location of the powder is precisely calcd. using the image picture taken by CCD camera and is removed by the laser device.

L159 ANSWER 14 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:907208 CAPLUS
DOCUMENT NUMBER: 134:65107
TITLE: Ceramic-based **chip**-type electric parts having outer electrodes
INVENTOR(S): Nishizawa, Kaoru; Yamakawa, Daisuke
PATENT ASSIGNEE(S): Mitsubishi Materials Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000357627	A2	20001226	JP 1999-168177	19990615

PRIORITY APPLN. INFO.: JP 1999-168177 19990615

AB The chip-type elec. parts such as laminated ceramic capacitors, LC composite EMI filters, chip-type thermistors, etc., have on both ends 3-layered outer electrode composed of (A) sintered metal-based innermost layers, (B) internal layers covering A and formed by plating Ni, Cu, or their alloys, av. particle diam. of ppts. of the platings being 0.005-1 .mu.m, and (C) outermost layers covering B and formed by plating Sn or solders. Protrusion of platings on base ceramics can be avoided.

L159 ANSWER 15 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:686372 CAPLUS
DOCUMENT NUMBER: 133:232185
TITLE: Optochemical sensor and method for its construction
INVENTOR(S): Vossmeyer, Tobias; Tomita, Hidemi
PATENT ASSIGNEE(S): Sony International (Europe) Gmbh, Germany
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1039291	A1	20000927	EP 1999-106337	19990326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000346806	A2	20001215	JP 2000-90757	20000327
PRIORITY APPLN. INFO.:			EP 1999-106337 A	19990326

AB The present invention relates to a chem. sensor arrangement comprising an analyte sensitive indicator wherein the analyte sensitive indicator comprises at least one nanoparticle. Any radiation change due to a variation of nanoparticle optical properties caused by the analyte to be detected is transferred by optic fiber through microscope and UV-filter to CCD-camera. A computer unit analyses the detected signal. The invention further relates to a method for providing nanoparticles of defined and different sizes, esp. for a chem. sensor arrangement, wherein a nanoparticle soln., comprising nanoparticles of a broad size distribution, is applied to chromatog. beads, whereby the nanoparticles are adsorbed onto said beads and classified by size, and beads of a specific layer, comprising nanoparticles of essentially the same size, are sepd. from the beads within other layers and are hold in suspension.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L159 ANSWER 16 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:454278 CAPLUS
DOCUMENT NUMBER: 131:85125
TITLE: Method and device comprising capture molecule fixed on disc surface
INVENTOR(S): Remacle, Jose
PATENT ASSIGNEE(S): Belg.
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9935499	A1	19990715	WO 1998-BE206	19981224
W: AL, AM, AU, BA, BB, BG, BR, CA, CN, CU, CZ, DE, DE, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2312173	AA	19990715	CA 1998-2312173	19981224
AU 9920418	A1	19990726	AU 1999-20418	19981224
AU 746768	B2	20020502		
BR 9814726	A	20001017	BR 1998-14726	19981224
EP 1044375	A1	20001018	EP 1998-965057	19981224
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2002501174	T2	20020115	JP 2000-527830	19981224
US 2002177144	A1	20021128	US 2001-35822	20011227
PRIORITY APPLN. INFO.:			US 1997-71726P P	19971230
			WO 1998-BE206 W	19981224
			US 2000-582817 A2	20001108

AB The present invention is related to a method for the detection and/or the quantification of a target mol. by its binding with a non-cleavable capture mol. fixed on the surface of a disk comprising registered data. The present invention is also related to a disk having fixed upon its surface a non-cleavable capture mol., to its prepn. process, and to a diagnostic and/or reading device of said disk or comprising said disk.

Cytomegalovirus and HIV DNA and bovine serum albumin were detected on compact disks (CDs). For DNA detection, capture probes were bound to aminated polycarbonate CDs. For protein detection, antibodies were fixed on a carboxylated CD. Detection involved using biotinylated DNA or antibodies, streptavidin-peroxidase, and TMB to give a blue color.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L159 ANSWER 17 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:172650 CAPLUS
DOCUMENT NUMBER: 130:208814
TITLE: Methods and devices for detecting non-complexed prostate specific antigen
PATENT ASSIGNEE(S): Scantibodies Laboratory, Inc., USA
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9910745	A1	19990304	WO 1998-US17586	19980825
W: CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5994085	A	19991130	US 1997-918839	19970826
EP 1053475	A1	20001122	EP 1998-944518	19980825
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE, FI				
US 2002187518	A1	20021212	US 2002-108654	20020327

PRIORITY APPLN. INFO.:
US 1997-918839 A 19970826
US 1998-118844 A 19980720
WO 1998-US17586 W 19980825

AB The present invention relates to novel methods and devices for detecting non-complexed prostate specific antigen (PSA), which can be used either alone or in conjunction with total PSA tests to identify patients having either benign prostatic diseases (BPD), such as benign prostatic hyperplasia, prostatitis, or glandular atrophy or prostatic adenocarcinoma (CAP). In a biol. sample, one can find not only non-complexed PSA, but also PSA which has formed a complex with .alpha.1-antichymotrypsin (ACT). The present invention removes or ppts. complexed PSA (PSA-ACT) and ACT from a fluid sample, thereby removing any possible interference due to the binding of complexed PSA to assay reagents. The method requires contacting a biol. fluid sample possibly contg. a mixt. of complexed PSA and non-complexed PSA either with an immuno-pptg. reagent or a device having attached an ACT specific binding partner which in both cases specifically binds only to ACT and the ACT portion of complexed PSA, thereby pptg. ACT and the bound complexed PSA and, thus, leaving any non-complexed PSA unbound and in soln. Then, the sample is measured for non-complexed PSA by means of a conventional specific binding reaction. The device can be a filter having a modified filter media that binds ACT and complexed PSA, while permitting the sample to flow or be pulled through the filter media and into assay reagents. Alternatively, the device can be a removable media that is placed into a sample, allowed to remain long enough to bind any ACT and complexed PSA present, and then withdrawn from the sample prior to running a PSA specific binding assay.
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L159 ANSWER 18 OF 32 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:397720 CAPLUS
DOCUMENT NUMBER: 127:78240

TITLE: Biomolecules bound to polymer- or copolymer-coated catalytic inorganic particles for immunoassays and kits using them

INVENTOR(S): Kidwell, David A.; Conyers, Susan M.

PATENT ASSIGNEE(S): Geo-Centers, Inc., USA; United States Dept. of the Navy

SOURCE: U.S., 13 pp., Cont.-in-part of U.S. 5,384,265.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5637508	A	19970610	US 1995-376396	19950123
US 5384265	A	19950124	US 1993-37981	19930326

PRIORITY APPLN. INFO.: US 1993-37981 19930326

AB Polymer- or copolymer-coated catalytic colloidal metal particles bound to a biomol. such as an antibody, avidin, or streptavidin and kits contg. such polymer- or copolymer-coated catalytic metal particles are useful for detecting the presence of the biomol. in an assay such as an immunoassay.

L159 ANSWER 19 OF 32 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1999:104614 BIOSIS

DOCUMENT NUMBER: PREV199900104614

TITLE: Quantitative measurements of ammonium, hydrogenphosphate and Cu(II) by diffuse reflectance spectrometry.

AUTHOR(S): Ghauch, A. (1); Rima, J.; Charef, A.; Suptil, J.; Fachinger, C.; Martin-Bouyer, M.

CORPORATE SOURCE: (1) Univ. Savoie, ESIGEC LCIE Campus Scientifique, Savoie Technolac 77376 le bourget du lac-cedex France

SOURCE: Talanta, (Feb., 1999) Vol. 48, No. 2, pp. 385-392.
ISSN: 0039-9140.

DOCUMENT TYPE: Article

LANGUAGE: English

AB Diffuse reflectance spectrometry is shown to be useful for the quantitative determination of small amounts of pollutants. The relation between sample concentration and reflectance is described by the Kubelka-Munk equation. The experiments were performed with a laboratory constructed diode **array** spectrophotometer. We can obtain the quantitative reflectance values of different **precipitates** like ammonium with Nessler's reagent, hydrogenophosphate with **silver** nitrate and a complex such as Cu(II) with dithiooxamide 'rubeanic acid' by forming a spot colour on filter paper. We have obtained for each reagent a calibration curve by plotting the relative intensity of reflectance versus the log of the mol (dm3)-1 concentration. The linearity was obtained for Cu(II) from 8 X 10-4 to 2.5 X 10-2 mol l-1 with r2 = 0.9838 and from 10-3 to 10-1 mol l-1 for polyphosphate with r2 = 0.9975 and from 5 X 10-4 to 5 X 10-2 mol l-1 for ammonium with r2 = 0.9889. We can consider that for a direct measurement of the intensity of reflectance, it is possible to perform quantitative spot-test analysis.

L159 ANSWER 20 OF 32 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1997:310047 BIOSIS

DOCUMENT NUMBER: PREV199799617850

TITLE: Post-mine metal transport and attenuation in the Keno Hill mining district, central Yukon, Canada.

AUTHOR(S): Kwong, Y. T. J. (1); Roots, C. F.; Roach, P.; Kettley, W.

CORPORATE SOURCE: (1) Natl. Hydrol. Res. Inst., 11 Innovation Boulevard, Saskatoon, SK S7N 3H5 Canada

SOURCE: Environmental Geology (Berlin), (1997) Vol. 30, No. 1-2, pp. 98-118.

ISSN: 0943-0105.
DOCUMENT TYPE: Article
LANGUAGE: English
AB The Keno Hill mining district in central Yukon was the second largest **silver** producer in Canada with mines operating from 1913 to 1989 on more than 65 vein **silver** deposits. The seven and a half decades of mining activities have generated large volumes of mine waste disposed on the land surface, resulting in elevated metal contents in numerous small drainages. To assess the extent of metal mobilization, old mine workings and the associated mine waste were examined and the water courses drainage to a major river valley sampled. The results of field observations and an **array** of water and sediment analyses led to three major conclusions. 1. Acid mine drainage is not widespread because of galvanic protection of pyrite from oxidative dissolution and neutralization by carbonates in the country rock. 2. Mechanisms operative to limit aqueous metal transport in small streams in the district include cryogenic **precipitation**, coprecipitation and sorption. 3. The near-surface concentration of metals limits the options of waste disposal in future mining developments due to potential metal-leaching problems.

L159 ANSWER 21 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-537630 [57] WPIDS
DOC. NO. CPI: C2002-152498
TITLE: Detecting nucleic acid, uses radiation sensor to which capture molecules are attached through an adhesive layer.
DERWENT CLASS: **B04** D16
INVENTOR(S): HOFMANN, F; LUYKEN, J R; STREIBL, M; LUYKEN, R J; SCHINDLER-BAUER, P T; STEIBL, M
PATENT ASSIGNEE(S): (INFN) INFINEON TECHNOLOGIES AG
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002048396	A2	20020620	(200257)*	GE	39
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR					
W: JP US					
DE 10062244	A1	20020704	(200257)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002048396	A2	WO 2001-DE4719	20011214
DE 10062244	A1	DE 2000-10062244	20001214

PRIORITY APPLN. INFO: DE 2000-10062244 20001214
AB WO 200248396 A UPAB: 20020906
NOVELTY - Detecting nucleic acid (I) using a sensor comprising:
(i) a radiation detector;
(ii) a radiation-transparent adhesive layer (AL), on the radiation-sensitive side of the sensor, formed so that capture molecules (CM) can be bound to AL; and
(iii) a predetermined type of CM attached to AL so that they can bind complementary sequences.
DETAILED DESCRIPTION - Detecting nucleic acid (I) using a sensor comprising:
(i) a radiation detector;
(ii) a radiation-transparent adhesive layer (AL), on the radiation-sensitive side of the sensor, formed so that capture molecules (CM) can be bound to AL; and
(iii) a predetermined type of CM attached to AL so that they can bind

complementary sequences.

A test sample is applied to the sensor; the detector irradiated and its output signal measured. After adding the sample, a decomposition solution is added to for selective decomposition of all nucleic acid molecules that are not bound, in double-stranded form, to their complements.

USE - The method is used to detect nucleic acid.

ADVANTAGE - The sensor is simple, inexpensive, robust and of very compact construction. The radiation source can be optimized with respect to wavelength, intensity and/or space angle to provide a high signal-to-noise ratio and thus increased sensitivity.

Dwg.0/4

L159 ANSWER 22 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-479792 [51] WPIDS
DOC. NO. CPI: C2002-136585
TITLE: Detection and enumeration of viable microorganisms, involves contacting marker containing liquid sol-gel precursor-coated slide with microbes-containing-filter, irradiated energy source and analyzing signal images.
DERWENT CLASS: **B04** D16 E19
INVENTOR(S): SHAW, E
PATENT ASSIGNEE(S): (BIOG-N) BIOGEM LTD
COUNTRY COUNT: 98
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002038724	A2	20020516	(200251)*	EN	25

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2002023985 A 20020521 (200260)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002038724	A2	WO 2001-IL1040	20011108
AU 2002023985	A	AU 2002-23985	20011108

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2002023985	A	Based on	WO 200238724

PRIORITY APPLN. INFO: IL 2000-139593 20001109

AB WO 200238724 A UPAB: 20020812

NOVELTY - Detecting and enumerating viable microorganisms, comprising providing a liquid composition comprising markers incorporated in a liquid sol-gel precursor, coating a transparent slide with a thin uniform layer of the liquid sol-gel precursor composition, and separating the microorganisms from a liquid sample by passing the sample through a filter (7), is new.

DETAILED DESCRIPTION - Detecting and enumerating viable microorganisms, comprising:

(a) providing a liquid composition containing markers incorporated in a liquid sol-gel precursor;

(b) coating a transparent slide with a thin uniform layer of the

liquid sol-gel precursor composition;

(c) separating the microorganisms from a liquid sample to be analyzed by passing the sample through a filter (7), and then bringing the filter into close contact with sol-gel-coated slide;

(d) co-incubating the filter with the sol-gel-coated slide at preset conditions to promote uptake of the markers by the microorganisms;

(e) irradiating the sol-gel-coated slide with an external energy source, to generate detectable signals emitted from the markers taken up by the microorganisms; and

(f) acquiring images of the detectable signals emitted from the microorganisms, and analyzing the images using a computer system, to provide identification and enumeration of the microorganisms.

INDEPENDENT CLAIMS are also included for the following:

(1) system comprising a standard frame grabber (1), a **CCD array camera** (2), a microscope, a mechanical x-y table (6), an autofocus system (3) and a fluorescent light source (4); and

(2) use of a porous sol-gel glass comprising markers, for identification and enumeration of viable microorganisms.

USE - For identification and enumeration of viable microorganisms (claimed).

ADVANTAGE - The compositions enables fast detection and enumeration (in 2-hours period) of low concentration of viable microorganisms (103 ml-1) using (in)organic substances that are entrapped in porous sol-gel glass. The microorganisms metabolize the markers, and emit detectable radiation, electromagnetism or fluorescence. Thus, the composition enables rapid visualization of viable microorganisms on the sol-gel glass. The sol-gel surface is extremely smooth and transparent and allows for an almost uniform focal point for high resolution microscopic scanning. Injured or stressed microorganisms can be detected by the incorporation of pyruvate or potassium sulfate which resuscitate or improves chlorinated injured coliform bacteria.

DESCRIPTION OF DRAWING(S) - The drawing shows a system for identifying and enumerating microorganisms.

Standard frame grabber 1
CCD array camera 2
Autofocus system 3
Fluorescent light source 4
Mechanical x-y table 6
Filter 7.
Dwg.1/3

L159 ANSWER 23 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-537246 [57] WPIDS
DOC. NO. CPI: C2002-152273
TITLE: Making an assay article for use in biopolymer detection, involves contacting a biopolymer with a surface of a modified substrate under condition sufficient for direct adsorption of biopolymer on substrate surface.
DERWENT CLASS: A89 **B04** D16
INVENTOR(S): MATSON, R S; RAMPAL, J B
PATENT ASSIGNEE(S): (BECI) BECKMAN COULTER INC
COUNTRY COUNT: 20
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002034950	A2	20020502	(200257)*	EN	27

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
W: JP

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2002034950 A2 WO 2001-US43046 20011022

PRIORITY APPLN. INFO: US 2000-694701 20001023
AB WO 200234950 A UPAB: 20021026
NOVELTY - Making (M) an assay article for use in biopolymer detection, comprising providing a biopolymer, providing a modified substrate, and contacting the biopolymer with a surface of the substrate under a condition sufficient for a direct adsorption of the biopolymer on the surface of the substrate, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an assay article (I) comprising a substrate having a functionality selected from amino, carboxyl, hydroxyl, thiol and their derivatives, and a biopolymer directly adsorbed on a surface of the substrate; and

(2) a test kit (II) for detecting a target biopolymer contained in a sample comprises an aminated polypropylene substrate, and a probe biopolymer directly adsorbed on a surface of the substrate, where the probe biopolymer forms a complex with the target biopolymer.

USE - (M) is useful for making an assay article that is useful for detecting a target biopolymer such as nucleic acids, polypeptides, proteins, and their analogs contained in a sample by providing a modified substrate. The target biopolymer is detected by providing a probe biopolymer that can form a complex with the target biopolymer, contacting either the probe or target biopolymer with a surface of the substrate under a condition sufficient for a direct adsorption of either the probe or target biopolymer on the substrate surface to form a probe assay article or a target assay article, respectively, contacting the probe assay article with the target biopolymer, or contacting the target assay article with the probe biopolymer under a condition that allows the formation of a complex comprising the probe and the target biopolymers, and detecting and determining the presence of the complex as a measurement for the presence or the amount of the target biopolymer contained in the sample. The target biopolymer is a target polynucleotide, and the probe biopolymer is a polynucleotide that is complementary to the target polynucleotide. The complex further comprises a reporter. The method further comprises a step of incubating the complex adsorbed on the surface of the modified substrate with streptavidin-alkaline phosphatase and an enzyme labeled fluorescent (ELF) reagent for developing a fluorescent signal prior to the detecting step. The detecting step comprises recording the signal with a confocal **array** reader, where the signal is a fluorescence and the confocal **array** reader is a charge coupled device (**CCD**) **camera**. The substrate is made of polypropylene or polyethylene. The method further comprises a step of aminating the surface of the substrate prior to the step of contacting. (All claimed). (M) is useful for creating biopolymer **arrays** and polynucleotide **arrays**, such as gene expression micro-**arrays** for use in gene expression analysis. The polynucleotide **arrays** are useful for the revaluation of identification of biological activity and for polynucleotide sequences.

ADVANTAGE - (M) is a cost-efficient, rapid and convenient method of making an assay article. Since (M) allows for the adsorption of biopolymers directly on a solid substrate without chemical cross-linking, costly production of modified biopolymers, such as thiol- or amino-modified DNA is avoided. The task of making **arrays** is greatly simplified and the production cause are significantly reduced, because the biopolymers are simply air-dried on the substrate.
Dwg.0/2

L159 ANSWER 24 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-731103 [79] WPIDS

DOC. NO. CPI: C2002-207092
TITLE: Detecting DNA, for analyzing samples quickly, comprises hybridizing a target with an immobilized DNA probe, fixing an intercalator, introducing electrochemiluminescent fluid, applying a voltage, and analyzing chemiluminescence.
DERWENT CLASS: **B04** D16 E23
INVENTOR(S): KIM, S H; KIM, T H; LEE, J G; LEE, S E; PARK, J G; YOON, G S; PARK, J K; YUN, K S
PATENT ASSIGNEE(S): (GLDS) LG ELECTRONICS INC
COUNTRY COUNT: 2
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002106682	A1	20020808	(200279)*		23
KR 2002064805	A	20020810	(200309)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002106682	A1	US 2001-91	20011204
KR 2002064805	A	KR 2001-5217	20010203

PRIORITY APPLN. INFO: KR 2001-5217 20010203
AB US2002106682 A UPAB: 20021209
NOVELTY - Detecting (M) DNA comprises:
(a) immobilizing a probe DNA (PD) on a **chip** (C);
(b) placing a target DNA (TD) on (C), for hybridization of PD and TD;
(c) intercalating an intercalator (IC) to the hybridized DNA;
(d) introducing an electrochemiluminescent reaction fluid (RF) into (C);
(e) applying a preset voltage to (C) for causing reaction between IC and RF; and
(f) detecting, and analyzing a light from the reaction.
DETAILED DESCRIPTION - Detecting (M) DNA, comprises:
(a) immobilizing a probe DNA on a **chip**;
(b) placing a target DNA on the **chip** having the probe DNA immobilized on it, for hybridization of the probe DNA and the target DNA;
(c) intercalating an intercalator to the hybridized DNA;
(d) introducing an electrochemiluminescent reaction fluid into the **chip** having the DNA with an intercalated intercalator;
(e) applying a preset voltage to the **chip** for causing reaction between the intercalator and the electrochemiluminescent reaction fluid; and
(f) detecting, and analyzing a light from the reaction.
An INDEPENDENT CLAIM is also included for a device (I) for detecting a DNA comprising:
(i) a fastening part for fastening a DNA **chip** having a number of probe DNAs different from one another on an electrode, a sample supplying part for supplying a sample introduced for detecting a desired DNA from the DNA **chip**, an injecting part for injecting the sample supplied from the sample supplying part to the DNA **chip**, a power source part for applying a voltage to the electrode of the DNA so that the DNA makes reaction with the sample to cause electrochemiluminescence, an optical detection part for detecting a light of the electrochemiluminescence to analyze the DNA, and a discarding part for discarding unnecessary sample from the sample supplied to the DNA **chip**; or
(ii) a working mounter for fastening and mounting a DNA **chip** having probe DNAs arranged on it on an electrode, a sample reservoir for

storage sample introduced for detecting a desired DNA from the DNA **chip**, a first driving part for moving the working mounter to the sample reservoir for dipping the DNA **chip** mounted on the working mounter in the sample, a second driving part for moving the sample reservoir for dipping the DNA **chip** mounted on the working mounter in a desired sample, a power source part for applying a voltage to the electrode of the DNA **chip** so that the DNA makes reaction with the sample to cause electrochemiluminescence, and an optical detection part for detecting a light of the electrochemiluminescence to analyze the DNA.

USE - The method or a device for carrying out the method is useful for detecting DNA (claimed).

ADVANTAGE - (M) is fast and simple, and detects DNA, quickly, and at a low cost, as no labeling is required. (M) is simple as no additional process is required. A DNA hybridization time period may be shortened by adjusting a voltage to an electrode. The use of electrochemiluminescence permits to dispense with an external light source, such as a laser, or a lamp, and a filter or a polarizer, that allows fabrication of a low cost DNA detection device. A precise detection of DNA is possible because there is no noise, or scattering of light caused by an external light source, such as a laser. As the intercalators are intercalated at a DNA double strand formed by complementary reaction of DNAs, a precise, and selective DNA detection is possible. The automated processes, such as for the hybridization, make the process convenient, and accurate. Once immobilization of many probe DNAs is made, many samples can be analyzed quickly and conveniently. (I) detects DNA accurately and is economical.

DESCRIPTION OF DRAWING(S) - The figure shows the steps of a method for detecting DNA.

Dwg.1A/10

L159 ANSWER 25 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2003-113490 [11] WPIDS
DOC. NO. NON-CPI: N2003-090261
DOC. NO. CPI: C2003-029270
TITLE: Biocompatible hollow and/or porous particles, microspheres or nanospheres, useful e.g. in medicine, sensor applications, biology, genetic engineering, analysis or data storage.
DERWENT CLASS: **B04** B07 C07 D16 D22 L03 P32 P34 S05
INVENTOR(S): QUELLE, G
PATENT ASSIGNEE(S): (QUEL-I) QUELLE G
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 10126246	A1	20021205	(200311)*		5

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10126246	A1	DE 2001-10126246	20010529

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 10126246	A1 Add to	DE 10026620

PRIORITY APPLN. INFO: DE 2001-10126246 20010529
AB DE 10126246 A UPAB: 20030214
NOVELTY - A new biocompatible material (I), for implantation, migration or

intercalation in tissues, cells or organelles, is new.

DETAILED DESCRIPTION - A new biocompatible material (I), for implantation, migration or intercalation in tissues, cells or organelles, consists of irregular or round, non-resorbable, spherical particles, microspheres or nanospheres having a semi-permeable, permeable or porous outer shell and at least one internal hollow cavity. Alternatively the outer shell can be compact, non-porous and non-permeable; if the particles or microspheres are porous the cavities can be replaced by internal pores; and/or (I) may be resorbable for some applications.

USE - The following uses of (I) are claimed: as a tissue augmentation material of size 30 microns-10 mm, for use in human or veterinary medicine, e.g. for plastic, cosmetic or restorative surgery, treating (stress) incontinence or gastroenteric reflux disease or breast implants or for intradermal, subdermal, mucosal, subcutaneous or intramuscular implantation; for storing and possibly releasing a wide range of active component, e.g. cells, enzymes, microorganisms, DNA, RNA or growth factors; for delivery of medicinal or cosmetic active agents (specifically after administration by injection, as implants, into body cavities or by spraying, inhalation, sucking, drinking or rubbing), e.g. for bonding to nerve cells, tumor cells or tumor tissues (via reactive sites on the outer shell) and releasing stored antitumor agents; for encapsulating or storing a wide range of electronic or electrical devices or systems, e.g. sensors, signal transmitting or receiving systems or data storage systems; in diagnostic, analytical, sensor, human or veterinary medicinal, biological, data processing, data storage, genetic engineering plant and gene therapeutic applications; or for regulating the life cycle and growth of plants, plant pathogens, microorganisms, insects, useful animals or pest animals.

ADVANTAGE - When used as implants, (I) provide improved connective tissue formation, migration of connective tissue cells into the implant and survival rate of connective tissue cells.

Dwg.0/0

L159 ANSWER 26 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-557783 [62] WPIDS
DOC. NO. NON-CPI: N2001-414496
DOC. NO. CPI: C2001-165910
TITLE: Detecting mutation in target nucleic acid, useful for detecting hereditary genetic diseases, comprises using **chip** whose electrical or optical property changes relative to the presence of hybridized probe.
DERWENT CLASS: **B04** D16 S03
INVENTOR(S): CAILLOUX, F
PATENT ASSIGNEE(S): (NUCL-N) NUCLEICA SA; (NUCL-N) NUCLEICA
COUNTRY COUNT: 96
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001064945	A2	20010907	(200162)*	FR	19
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
FR 2805826	A1	20010907	(200162)		
AU 2001040743	A	20010912	(200204)		
EP 1259644	A2	20021127	(200302)	FR	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001064945	A2	WO 2001-FR604	20010301
FR 2805826	A1	FR 2000-2614	20000301
AU 2001040743	A	AU 2001-40743	20010301
EP 1259644	A2	EP 2001-911814	20010301
		WO 2001-FR604	20010301

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001040743	A	Based on	WO 200164945
EP 1259644	A2	Based on	WO 200164945

PRIORITY APPLN. INFO: FR 2000-2614 20000301

AB WO 200164945 A UPAB: 20011026
NOVELTY - Detecting a mutation at a particular position in a target nucleic acid, comprising binding the target to a solid support, hybridizing a probe to the target, elongating the probe with nucleotide(s) resistant to exonuclease, digesting the probe with exonuclease and detecting bound nucleic acid, is new.

DETAILED DESCRIPTION - Detecting a mutation in position 'n' in a target nucleic acid, comprising:

(a) hybridizing a probe 5' bound to a DNA **chip** solid support with a target nucleic acid, where the 3' extremity of the probe maximally hybridizes up to the 'n' position;

(b) elongating the hybridized probe by incorporating 5' to 3' nucleotides complementary to the target nucleic acid using a reaction mixture comprising at least one nucleotide derivative which is resistant to degradation with an exonuclease and a DNA polymerase;

(c) digesting with the exonuclease so that only the non-elongated probes are digested;

(d) washing; and

(e) detecting the mutation by measuring indirectly or directly the presence of DNA.

An INDEPENDENT CLAIM is also included for a device for carrying out the above method.

USE - The method is used to detect gene mutations implicated in disease, particularly hereditary genetic diseases, especially sickle cell anemia, alpha and beta thalassemias, cystic fibrosis, hemophilia and genes implicated in cancer (claimed).

ADVANTAGE - The **chip** of the invention is easier to use and requires less complex interpretation than prior art methods.

Dwg.0/4

L159 ANSWER 27 OF 32	WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER:	2001-408460 [43] WPIDS
DOC. NO. NON-CPI:	N2001-302261
DOC. NO. CPI:	C2001-123681
TITLE:	Flow cell **array** for multi-analyte determination, e.g. for drug research or food analysis, has base plate and attached bodies with channels between, forming flow cells with an inlet and an outlet leading to a liquid reservoir.
DERWENT CLASS:	A89 **B04** C07 D13 D16 J04 S03
INVENTOR(S):	ABEL, A P; BOPP, M A; DUVENECK, G L; EHRAT, M; KRESBACH, G M; PAWLAK, M; SCHAERER-HERNANDEZ, N G; SCHICK, E; SCHUERMANN-MADER, E; SCHARER-HERNANDEZ, N G; SCHURMANN-MADER, E
PATENT ASSIGNEE(S):	(ZEPT-N) ZEPTOSENS AG; (ABEL-I) ABEL A P; (BOPP-I) BOPP M A; (DUVE-I) DUVENECK G L; (EHRA-I) EHRAT M; (KRES-I)

KRESBACH G M; (PAWL-I) PAWLAK M; (SCHA-I)
SCHARER-HERNANDEZ N G; (SCHI-I) SCHICK E; (SCHU-I)
SCHURMANN-MADER E

COUNTRY COUNT: 92
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001043875	A1	20010621	(200143)*	GE	75

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001020094	A	20010625	(200162)		
EP 1237654	A1	20020911	(200267)	GE	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

US 2002182631	A1	20021205	(200301)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001043875	A1	WO 2000-EP12668	20001213
AU 2001020094	A	AU 2001-20094	20001213
EP 1237654	A1	EP 2000-983314	20001213
		WO 2000-EP12668	20001213
US 2002182631	A1	WO 2000-EP12668	20001213
		US 2002-168001	20020617

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001020094	A	Based on	WO 200143875
EP 1237654	A1	Based on	WO 200143875

PRIORITY APPLN. INFO: CH 2000-534 20000321; CH 1999-2316 19991217

AB WO 200143875 A UPAB: 20010801
NOVELTY - An arrangement of sample containers comprising a base plate (A) and an attached body (B) with channels between (A) and (B) arranged so as to form liquid-tight flow cell(s) with inlet(s) and outlet(s), in which at least one outlet from each flow cell leads to a reservoir which receives the liquid from the cell.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) an analytical system for the determination of analyte(s), with an **array** as described above, arrangements for feeding samples or reagents to the sample containers in a locally-addressed fashion and detector(s) for detecting changes in measured parameters, preferably optical, electrical, electrochemical or thermal quantities or a radioactive signal;

(b) an analytical system for the determination of luminescence(s), with an **array** and feed system as above, light source(s) for excitation and detector(s) for the light emitted from one or more areas on the sensor platform;

(c) a system for the determination of analyte(s), with an **array** and feed system as above, light source(s) for excitation and detector(s) for measuring a change in optical parameters, preferably refractive index (RI) and/or luminescence in the vicinity of the analyte(s);

(d) production of a 1- or 2-dimensional **array** as above by assembling the base plate and attached bodies in such a way as to form a fluid-tight seal between adjacent grooves; and

(e) detection of analytes in liquid samples with these arrangements and systems, in which samples and optionally other reagent liquids are fed into the sample containers and then flow out into a reservoir connected to the flow cell and forming a component of the sample container.

USE - For the determination of chemical, biochemical or biological analytes in screening processes for pharmaceutical research, combinatorial chemistry, clinical and preclinical development, real-time binding studies, kinetic parameters in affinity screening and research, DNA and RNA analysis and the determination of genomic and proteomic differences in the genome, e.g. single nucleotide polymorphism, measurement of protein-DNA interactions, determination of control mechanisms for m-RNA expression and protein (bio)synthesis, toxicity studies, determination of expression studies, especially for the determination of biological and chemical markers, e.g. mRNA, proteins, peptides or low-mol. wt. organic (messenger) substances, for the detection of antibodies, antigens, pathogens or bacteria in drug R and D, human and veterinary diagnostics, agrochemicals R and D, symptomatic and presymptomatic plant diagnostics and patient stratification in pharmaceutical product development, for therapeutic medicament selection and for the detection of pathogens, pollutants and irritants, especially salmonella, prions, viruses and bacteria, particularly in foods and the environment (claimed).

ADVANTAGE - An analytical system with a simple **array** of flow cells, enabling rapid and accurate multi-analyte determination with very small liquid samples of a very wide range of analyte types without evaporation and loss of accuracy.

DESCRIPTION OF DRAWING(S) - Cross-section of flow cell arrangement.

sample inlet; 1
sample outlet; 2
recess (channel); 3
base plate; 4
reservoir; 5
body part 6
Dwg.1/5

L159 ANSWER 28 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-451561 [48] WPIDS
DOC. NO. NON-CPI: N2001-334324
DOC. NO. CPI: C2001-136332
TITLE: Glycoarray useful for diagnosing a disease comprises an **array** of discrete sensing elements of glycans immobilized on a solid support.
DERWENT CLASS: **B04** C07 D16 J04 S03
INVENTOR(S): BOVIN, N V; MECKLENBURG, M W; NIFANT'EV, N E; ORTIGAO, F R
PATENT ASSIGNEE(S): (SYNT-N) SYNTESOME GES MEDIZINISCHE BIOCHEMIE MBH; (THER-N) THERMO HYBAID GMBH
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001040796	A2	20010607	(200148)*	EN	42

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001018610 A 20010612 (200154)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001040796 A2		WO 2000-EP11975	20001129
AU 2001018610 A		AU 2001-18610	20001129

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001018610 A		Based on	WO 200140796

PRIORITY APPLN. INFO: EP 1999-123712 19991129

AB WO 200140796 A UPAB: 20010829

NOVELTY - A glycoarray, comprises an **array** of discrete sensing elements of glycans immobilized on a solid support. The glycans have an attachment group for immobilization on the solid support, a linker group and a glycan functional group consisting of at least one saccharide.

DETAILED DESCRIPTION - A glycoarray, comprises an **array** of discrete sensing elements of glycans immobilized on a solid support. The glycan is of formula G-Y-X (1) where:

X = an attachment group for immobilization on the solid support;

Y = a linker group; and

G = a glycan group consisting of at least one saccharide.

INDEPENDENT CLAIMS are also included for the following:

(1) producing the glycoarray by immobilizing the glycan on a streptavidin coated sensing surface via biotin or its derivative;

(2) discriminating complex biological samples preferably in which constituents bound to the glycoarray are determined by label or non-label detection systems;

(3) diagnosing a disease by contacting a sample from a subject with the glycoarray;

(4) diagnosing the general state of health in which a signal pattern is generated which is diagnostic of a particular state of health, the sample is a patient sample and a standard is the pattern present in a representative part of the population;

(5) identifying an organism in which a signal pattern is generated that is unique to a particular organism, a sample is a biological sample from a particular organism and a standard is a pattern normally found in that organism; and

(6) a kit comprising the glycoarray formed by immobilizing the glycan on a streptavidin coated sensing surface via biotin or its derivative and optionally containing a suitable device for the label or non-label detection.

USE - In diagnostic assays e.g. in discriminating complex biological samples for diagnosing a disease by analyzing the sample derived from a human or animal tissue or body fluid e.g. blood, serum, urine, milk, sweat, exhaled air, skin, bone marrow, cerebrospinal fluid, synovial fluid, amniotic fluid, and lymphatic fluid. The diseases include genetic disorders, autoimmune diseases, arthritis, infectious diseases, cancer, heart disease, drug abuse HIV, BSE and lung disease. Also for diagnosing the general state of health by diagnosing common mild ailments and/or health conditions with diffuse symptoms, consisting of high blood pressure, pregnancy, common colds, injuries, inflammatory reactions, mild immune suppression, doping, altitude sickness, space sickness chronic fatigue syndrome and effects of low level toxic chemical or radiation exposure, menstrual cycles and subclinical infections; and in a kit containing the glycoarray (all claimed). The glycoarray is also useful in the discrimination of complex samples containing food stuffs and for the control of environmental testing.

ADVANTAGE - In addition to providing useful information about the general state of the health such as hemoglobin, blood pressure, the

glycoarrays also provide adequate information for identifying diseases and are sensitive enough to detect subtle changes for early disease detection. By providing the information as to which class of ailments the patient is suffering from, the method reduces the number of specific tests, which must be performed.
Dwg.0/5

L159 ANSWER 29 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-501100 [45] WPIDS
DOC. NO. NON-CPI: N2000-371433
DOC. NO. CPI: C2000-150679
TITLE: Liquid toner manufacture for laser printer, involves wet grinding coloring **chip** obtained by mixing coloring agent, resin and an ionomer, in a non-aqueous solvent.
DERWENT CLASS: A17 A89 G08 P84 **S06**
PATENT ASSIGNEE(S): (TOXW) TOYO INK MFG CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2000172021 A		20000623	(200045)*		7

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2000172021 A		JP 1998-349518	19981209

PRIORITY APPLN. INFO: JP 1998-349518 19981209
AB JP2000172021 A UPAB: 20000918
NOVELTY - Liquid toner manufacture involves dry grinding of coloring **chip** obtained by heat mixing a coloring agent, resin and an ionomer, and further wet grinding the toner in a non-aqueous solvent.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the toner.
USE - The method is used for actualization of an electrostatic latent image. The method is used to manufacture liquid toner (claimed) used as image formation material of a color laser printer and a full color digital on-demand printing machine.
ADVANTAGE - Image with high fixing strength and image density is obtained in electrographic printing system by the electrophoresis property. Productivity is improved, by heat melting and cooling **precipitate** in the resin solvent. Image with improved electrophoresis property is obtained.
Dwg.0/0

L159 ANSWER 30 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-136990 [12] WPIDS
DOC. NO. NON-CPI: N2000-102404
DOC. NO. CPI: C2000-042040
TITLE: Complex-forming assay for analyte, particularly nucleic acid, used e.g. in detecting genetic disease, with accelerated complex formation by electrophoretic concentration of analyte.
DERWENT CLASS: B04 D16 J04 **S03**
INVENTOR(S): BLACKBURN, G; KAYYEM, J F; O'CONNOR, S D; CREAGER, S E; FRASER, S; IRVINE, B D; MEADE, T J; TERBRUEGGEN, R H; VIELMETTER, J G; WELCH, T W
PATENT ASSIGNEE(S): (CLIN-N) CLINICAL MICRO SENSORS INC
COUNTRY COUNT: 87

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9967425	A2	19991229	(200012)*	EN	140
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9947099	A	20000110	(200064)		
EP 1090145	A2	20010411	(200121)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 6264825	B1	20010724	(200146)		
US 6290839	B1	20010918	(200157)		
JP 2002518690	W	20020625	(200243)		195

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9967425	A2		WO 1999-US14191	19990623
AU 9947099	A		AU 1999-47099	19990623
EP 1090145	A2		EP 1999-930592	19990623
			WO 1999-US14191	19990623
US 6264825	B1	Provisional	US 1998-90389P	19980623
		Cont of	US 1998-134058	19980814
			US 1999-338726	19990623
US 6290839	B1	Provisional	US 1998-90389P	19980623
			US 1998-134058	19980814
JP 2002518690	W		WO 1999-US14191	19990623
			JP 2000-556065	19990623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9947099	A	Based on	WO 9967425
EP 1090145	A2	Based on	WO 9967425
JP 2002518690	W	Based on	WO 9967425

PRIORITY APPLN. INFO: US 1998-134058 19980814; US 1998-90389P 19980623; US 1999-338726 19990623

AB WO 9967425 A UPAB: 20000308

NOVELTY - Detecting a target analyte (I) comprising concentrating the analyte in a detection chamber (DC) comprising a detection electrode (DE) with a covalently attached capture ligand (II) to form an assay complex comprising (I), (II) and at least 1 electron transfer moiety (ETM), and detecting the ETM with the DE, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) detecting (I) by flowing a sample past DE covalently attached to (II), forming an assay complex comprising (I), (II) and at least 1 ETM, and detecting the ETM with the DE;

(b) detecting a target nucleic acid sequence comprising (in)directly hybridizing the target sequence to a capture probe covalently attached to a DE in the presence of a hybridization accelerator, to form an assay complex further comprising at least 1 ETM, and detecting the ETM with the DE;

(c) a substrate comprising **gold** electrodes, each comprising a self-assembled monolayer (SAM), (II) and an interconnect so that each electrode can be addressed individually; and

(d) forming the electrodes of (c) comprising:
(i) coating a fiberglass substrate with an adhesion metal;
(ii) coating the metal of (i) with **gold**; and
(iii) forming the pattern of electrodes and associated interconnects by lithography or photolithography; and when using photolithography
(iv) adding a self-assembled monolayer (SAM) comprising (II) to each electrode.

USE - The method is particularly used for assaying nucleic acids or proteins, but more generally (I) is any compound for which a binding partner is available, e.g. pesticide or other pollutants; therapeutic or illicit drugs; whole cells; viruses etc. Particularly the method is used in **array** formats, optionally with many thousands of different (II). Particular applications are detecting genes associated with cancer, Alzheimer's disease, cystic fibrosis etc.; detecting bacteria and viruses (e.g. for blood screening or testing water or foods); for forensic fingerprinting; for sequencing and for detecting successful gene amplification.

ADVANTAGE - The rate of complex formation is increased, resulting in more sensitive detection, particularly down to 100 molecules.

DESCRIPTION OF DRAWING(S) - The diagram shows a method of detecting target sequences (n = any number including 0).

Target sequence 120
Capture probe 100
Attachment Linker 106
Electrode 105
Passivation agent 107
Dwg.3A/14

L159 ANSWER 31 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1999-443884 [37] WPIDS
DOC. NO. NON-CPI: N1999-331070
DOC. NO. CPI: C1999-130702
TITLE: Biosensors used to detect analyte, e.g. chemical or biological contamination in garments, e.g. diapers.
DERWENT CLASS: A18 A23 A26 A96 B04 D16 D22 E13 J04 P75 **S03**
INVENTOR(S): EVERHART, D S; JONES, M L; KAYLOR, R M
PATENT ASSIGNEE(S): (KIMB) KIMBERLY-CLARK WORLDWIDE INC
COUNTRY COUNT: 84
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9931486	A1	19990624	(199937)*	EN	39
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
AU 9919205	A	19990705	(199948)		
US 6060256	A	20000509	(200030)		
EP 1040338	A1	20001004	(200050)	EN	
R: BE DE ES FR GB IT NL SE					
CN 1286753	A	20010307	(200140)		
KR 2001032322	A	20010416	(200163)		
MX 2000004968	A1	20010201	(200168)		
US 6436651	B1	20020820	(200257)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9931486	A1	WO 1998-US26759	19981216

AU 9919205	A	AU 1999-19205	19981216
US 6060256	A	US 1997-991644	19971216
EP 1040338	A1	EP 1998-963991	19981216
		WO 1998-US26759	19981216
CN 1286753	A	CN 1998-812255	19981216
KR 2001032322	A	KR 2000-705534	20000520
MX 2000004968	A1	MX 2000-4968	20000519
US 6436651	B1 Div ex	US 1997-991644	19971216
		US 2000-503554	20000211

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9919205	A	Based on	WO 9931486
EP 1040338	A1	Based on	WO 9931486
US 6436651	B1	Div ex	US 6060256

PRIORITY APPLN. INFO: US 1997-991644 19971216; US 2000-503554 20000211

AB WO 9931486 A UPAB: 19990914

NOVELTY - Biosensors comprising:

(a) polymer film coated with metal; and

(b) patterned receptor layer printed onto (a) on which is a receptive material that specifically binds analyte.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) Methods of detecting analyte using the sensor; and

(2) A method of making the biosensor.

USE - Used to detect analyte. Used particularly in the field of microcontact printing binders on metal films to produce optical diffraction biosensors. Used as single tests for detecting analyte or as multiple test devices. Used for detection of chemical or biological contamination in garments such as diapers, detection of contamination by microorganisms in pre-packed foods such as fruit juices and other beverages, and in health diagnostic applications such as diagnostic kits for detection of antigens, microorganisms, and blood constituents. May be used on contact lenses, eyeglasses, windowpanes, pharmaceutical vials, solvent containers, water bottles and plasters to detect contamination. Used in immunoassays for either antigen or antibody detection, for use in direct, indirect or competitive detection systems, for determination of enzymatic activity, for detection of small organic molecules (drugs of abuse, therapeutic drugs, environmental agents) and nucleic acids. Samples with patterned antibody to Candida albicans were prepared by pretreating **gold**/polyester (10 nm thick) by immersion in 5 mg/ml phosphate-buffered saline solution (pH 7.2) of beta-casein for 10 minutes. The sample was rinsed thoroughly with distilled water and dried under a strong nitrogen stream. Contact printing was done using a polydimethylsiloxane stamp with an x,y **array** of 10 mu m diameter circles. The stamp was coated with a thiolated antibody to Candida albicans by immersing in a 0.5 mg/ml aqueous solution of antibody derivative. After 10 minutes, the stamp was removed and thoroughly dried using a strong stream of nitrogen. Contact printing was done on the casein-treated sample, with exposure times of 1 second to 2 minutes being adequate. After printing, the sample was again rinsed with distilled water and dried. The sensor sample was exposed to germ tube-bearing cells of C. albicans by inoculating tape-stripped adult forearm skin with a concentration of 106 yeast cells/ml and placing the sensor on top of the yeast-containing tape. Transfer of the yeast cells to the sensor was accomplished after only a few seconds of contact. Patterned adhesion of the yeast cells to the sensor was confirmed by microscopic analysis and resulted in a diffraction image upon irradiation with a laser.

ADVANTAGE - Are inexpensive and sensitive devices. Produced by easy, efficient and simple method of contact printing a patterned receptor on an

optically transparent, flexible substrate, that is amenable to continuous processing and does not use self-assembling monolayers. Are simpler than prior art, are not restricted to limitations of self-assembling monolayers and are easier to manufacture. Are low-cost and disposable and can be mass-produced.

DESCRIPTION OF DRAWING(S) - Schematic representation of metal-plated MYLAR (RTM) film with nutrient backing.

MYLAR film (RTM: polyethylene-terephthalate) 15

metal film 20

receptors specific for microorganism 25

nutrient backing 30

Dwg.1/8

L159 ANSWER 32 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1996-151477 [15] WPIDS
DOC. NO. NON-CPI: N1996-127232
TITLE: Water surface observation method from below rough water surface - using optical sensor located below surface which receives light from surface and programmed processor for processing signals generated by sensor.
DERWENT CLASS: **S02 S03**
INVENTOR(S): POTTER, R E
PATENT ASSIGNEE(S): (ARET-N) ARETE ASSOC INC; (ARET-N) ARETE ASSOC
COUNTRY COUNT: 38
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9606327	A1	19960229	(199615)*	EN	54
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE					
W: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MG MN MW NO NZ PL RO RU SD SE					
AU 9531211	A	19960314	(199625)		
US 5528493	A	19960618	(199630)		25
EP 776459	A1	19970604	(199727)	EN	54
R: DE FR GB SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9606327	A1	WO 1995-IB664	19950818
AU 9531211	A	AU 1995-31211	19950818
US 5528493	A	US 1994-294241	19940822
EP 776459	A1	EP 1995-927061	19950818
		WO 1995-IB664	19950818

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9531211	A	Based on	WO 9606327
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PRIORITY APPLN. INFO: US 1994-294241 19940822
AB WO 9606327 A UPAB: 19960417
The method provides local data about the ocean surface. The data is based on observing from a distance below the surface light intensities of many areas of the irregular water surface. From these intensities surface slope magnitude and orientations are estimated.

Analysis of the data enables a quantitative, dynamic representation of the water surface itself. From this model in turn, the various conditions to be reported on are inferred. The apparatus operates from a

bottom mounted or tethered undersea platform or from mobile equipment.

ADVANTAGE - Provides data about local ocean surface and its properties which improves public radio and TV weather reporting. Submerged appts. is insulated from destructive weather events and interactions with shipping.

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